

RSSDI Indian Diabetes

EDUCATOR JOURNAL



Theme of the Month

Setting up Diabetes Centres of Excellence (National Doctors' Day Special)

To keep Members of Diabetes Care team abreast about
DSME/DSMS - (Diabetes Self management Education/Support) Concepts

2015

2016

2017

2018

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(RESEARCH SOCIETY FOR THE
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FOREWORD

Research Society for the Study of Diabetes in India (RSSDI) founded by Prof MMS Ahuja in the year 1972 is the biggest scientific association of healthcare professionals involved in promoting diabetes education and research in India. RSSDI is happy to collaborate with USV to support their endeavour to make India the 'Diabetes care capital of the world'. Through this collaboration, RSSDI would like to strengthen the cadre of diabetes educators by empowering them with recent updates in diabetes management helping bridge the gap between the physician and the patient. Today, the rule of 50% is prevailing in terms of awareness, detection, treatment and control in T2DM. Our aspiration is to achieve 90-90-90-90 i.e. 90% of people with diabetes should be made aware, 90% should be detected, 90% of those detected should be treated, and 90% of those treated should reach their goals.

Indian Diabetes Educator Journal (IDEJ) is the first of its kind in India, and the longest running monthly diabetes educator journal since April 2015 & continues its endeavour to spread awareness, knowledge and enable healthcare teams to manage individuals with diabetes and empower them for self-care. RSSDI IDEJ will continue to keep the members of diabetes care team abreast with concepts of Diabetes Self-Management Education/Support (DSME/S) with a reach of 44000 doctors and diabetes educators digitally.

We sincerely thank our contributors for making this issue delightful reading for our readers. We dedicate this journal to all the healthcare professionals who are working relentlessly towards making "India-The Diabetes Care Capital of the World."

Sincere Regards,

Dr. Sanjay Agarwal
RSSDI Secretary

Disclaimer: This Journal provides news, opinions, information and tips for effective counselling of people with diabetes. This Journal intends to empower your clinic support staffs for basic counselling of people with diabetes. This journal has been made in good faith with the literature available on this subject. The views and opinions expressed in this journal of selected sections are solely those of the original contributors. Every effort is made to ensure the accuracy of information but Hansa Medcell or USV Private Limited will not be held responsible for any inadvertent error(s). Professional are requested to use and apply their own professional judgement, experience and training and should not rely solely on the information contained in this publication before prescribing any diet, exercise and medication. Hansa Medcell or USV Private Limited assumes no responsibility or liability for personal or the injury, loss or damage that may result from suggestions or information in this book.



ABOUT THIS ISSUE

*In India, we celebrate National Doctors' Day on 1st of July in memory of **Dr. Bidhan Chandra Roy**, physician and the second Chief Minister of West Bengal. His birth as well as death anniversary fall on this date. This day is celebrated to recognize the contributions of physicians to individual lives and society.*

Doctors are going beyond treatment to a step further in building expertise in different fields like prevention, obesity management, foot care, etc. and have created centres of excellence which can be emulated by other centres.

On this occasion of National Doctors' Day, IDEJ is happy to feature doctors pan India who have gone beyond conventional medicine and have excelled and created centres of excellence models in diabetes management and beyond.

We have interviewed these renowned personalities with the hope to spread awareness and motivation amongst healthcare professionals to broaden their horizons and achieve greater success and outcomes in their practice.

Expert Contributors of the month



Dr. Sunil Gupta

**MD, FACE (USA), FRCP (London, Glasgow & Edinburgh),
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Diabetologist, CEO & Managing Director of Sunil's Diabetes
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Article: Excellence in Gestational Diabetes Mellitus Management



Dr. Kavita Gupta

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Director, Head Dept. of Dietetics & Therapeutic Diabetes
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Article: Excellence in Gestational Diabetes Mellitus Management



Dr. AG Unnikrishnan

MD, DM (Endocrinology), DNB, MNAMS

CEO of Chellaram Diabetes Institute, Pune

Article: Excellence in Upskilling Diabetes Educators



Dr. Jothydev Kesavadev

**MD, FRCP (London Glasgow, Edinburgh),
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Article: Excellence in the Use of Technology in Diabetes Management



Dr. Sandeep Julka

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Article: Excellence in Promoting Exercise in Diabetes Management



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Article: Excellence in the Field of Research

Expert Contributors

of the month



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Prof, HOD Medicine, MM Dental College, Belgaum Associate Prof, Medicine, USM-KLE International Medical Program

Article: Excellence in Obesity Management



Dr. Dakshata Padhye

MBBS, Post Graduate Diploma in Diabetology (PGDD)

Preventive Diabetologist & Director at Conquer Diabetology Centre, Mumbai

Article: Excellence in Diabetes Prevention



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Article: Excellence in Diabetic Foot Care Management



Dr. Om J Lakhani

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Consultant Endocrinologist at Zydus Hospital, Ahmedabad

Article: Excellence in the Use of Social Media and Artificial Intelligence in Diabetes Management



Dr. Savita Bhat

MBBS, DOMS Ophthalmology, MS Ophthalmology, DNB Ophthalmology, Medical Retina Fellowship

Consultant Ophthalmologist / Eye Surgeon, Chellaram Diabetes Institute, Pune

Article: Excellence in the Management of Diabetic Retinopathy

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Interview with Dr. Sunil Gupta & Dr. Kavita Gupta



Dr. Sunil Gupta

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Diabetologist, CEO & Managing Director of Sunil's Diabetes Care n' Research Centre Pvt. Ltd., Nagpur

Dr. Sunil Gupta is a consultant Diabetologist, CEO & Managing Director of Sunil's Diabetes Care n' Research Centre Pvt. Ltd., Nagpur. He has been the National President of the Diabetes in Pregnancy Study Group India (DIPSI) – 2021-2022. He has won many national and international awards for his work in the field of diabetes. He has published and presented in several national & international journals and conferences. He has organized and contributed towards over 2000 mass education programs. He has also been a Principal Investigator in several clinical trials.



Dr. Kavita Gupta

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Dr. Kavita Gupta is the Director and Head Dept of Dietetics & Therapeutic Diabetes Education at Sunil's Diabetes Care n' Research Centre Pvt. Ltd. in Nagpur. She has over 20 years of experience in the field with a special interest in type 1 DM, insulin pumps, obesity, gestational diabetes mellitus (GDM) & diabetes education. She has presented research papers at national and international conferences. She is actively involved in conducting diabetes education programs & diet exhibitions.

Excellence in Gestational Diabetes Mellitus Management



1. You are at the forefront for GDM awareness and management. How burning is the issue in India?

Every 5th woman during pregnancy in India may have some form of hyperglycemia in pregnancy (HIP). Of them, 80% have GDM i.e. those detected to have hyperglycemia during pregnancy (usually 2nd and 3rd trimester) which is not suggestive of pre-existing diabetes. 11% of these women have pre-existing type 2 or type1 diabetes, while 9% are detected to have diabetes during pregnancy, which is suggestive of pre-existing DM (both these categories are classified as diabetes in pregnancy, also called as pre-gestational diabetes). This is certainly a burning issue, as Indian women during pregnancy are at 11 times higher risk to develop GDM versus Caucasian women. Thus, every healthcare professional must be vigilant (especially obstetricians, and paramedical workers involved in antenatal care coverage (ANC) care in rural and urban areas of our country). These alarming figures may be due to the global shift of older maternal age, obesity, sedentary and changing lifestyle, and increasing prevalence of young women with

diabetes and PCOS. Unfortunately, 80% of pregnancies are unplanned accidental pregnancies. So, women of childbearing age with known diabetes need to plan their pregnancies through adequate evidence-based preconception counselling. Rather they should take a “Fitness Certificate for Pregnancy” before conceiving. Though the global screening age for diabetes is 35 years, we feel that all women, especially those with h/o PCOD, obesity, positive family history of diabetes or other co-morbid conditions should be screened for diabetes (even before or immediately after marriage). Counselling will make sure that a woman has a safe, healthy pregnancy well before a positive result on a pregnancy test.

So, to conclude your question, we have a dual challenge, one is the increasing number of GDM, as well as that of diabetes in pregnancy, for which healthcare professionals need to be ready to face and act promptly.

2. Can GDM be prevented? If yes, how?

Enough data exists towards the prevention of GDM through healthy dietary habits and regular exercise.

Women who have a positive family history of diabetes, PCOS, bad obstetric history, obesity and are not physically active, are at increased risk for GDM. The best way to lower the risk of GDM is to stay healthy, maintain an ideal body weight, adopt healthy dietary practices, establish a regular exercise regime and plan pregnancy at an appropriate age. Multidisciplinary intensive education focusing on the importance of medical nutrition therapy (MNT), physical activity, weight management, and regular self-monitoring of blood glucose (SMBG) along with psychological support during every trimester is important for a healthy outcome.



3. Can you share your pearls of wisdom with diabetes educators on counselling women with GDM?

10 commandments for educators:

1. Every woman should be screened for HIP at the first ANC visit by Government of India guidelines through a 75 g 2-hour glucose challenge test (GCT), irrespective of the time of the meal, fasting or non-fasting.
2. If 2-hour GCT is >140 mg/dL, diagnose it as GDM. If it is negative, subject her to GCT again in the 2nd and 3rd trimesters.
3. 80% of GDM women will achieve their glycemic targets (FBG <90 mg% and 2-hour PPPG <120 mg%) through MNT and lifestyle modifications, others may need pharmacotherapy.
4. Metformin can be used in India after 20 weeks of gestation in GDM.
5. Insulin is the drug of choice for all women with HIP.
6. Blood glucose increases with advancing weeks of pregnancy and SMBG is the best guide to optimise the therapy.
7. Intrapartum glucose should be kept between 70–120 mg% to prevent neonatal hypoglycemia and other complications.
8. Women with pre-existing diabetes should undergo preconception counselling, achieve glycemic targets and get screened for all associated macro and microvascular diseases, hypertension, thyroid disease etc. and should be shifted to safe drugs before conception.
9. All post-partum women with GDM should be screened for DM by 75 g OGTT on the 6th day and 6th week. Then on the 6th month and then annually by OGTT or HbA1c criteria.

10. Two generations, the mother and the baby are protected by diagnosing and treating GDM. As, offspring of diabetic mothers (ODM) are more prone to have diabetes & non-communicable diseases in their adult life, lending a healthy environment to the fetus in the womb shall save him/her from future metabolic disorders, called primordial prevention. Similarly, GDM mothers are at increased risk of developing type 2 diabetes in future, which can be prevented through primary prevention strategies.

4. How important is nutritional management in GDM?

The primary goal of MNT in GDM is to promote adequate nutrition for maternal and fetal health, promote appropriate gestational weight gain and fetal growth, achieve and maintain normoglycemia and prevent ketosis. MNT plays a vital role in achieving the required glycemic targets of FBG <90 mg/dL and PPBG: <120 mg/dL. Approximately 80% of women diagnosed with GDM can be managed with medical nutrition therapy and lifestyle modification alone. The government of India recommends that GDM should be first managed for two weeks on MNT and if it fails to achieve the desired glycemic targets, pharmacotherapy is added.



The qualitative and quantitative aspect of nutrient intake plays a primary role in the health outcomes of all pregnant women. The energy requirement should be increased in the first trimester only if the woman is underweight. As per ICMR (2020) guidelines, an additional protein amount of 9.5 g/d in 2nd trimester and 22 g/d in 3rd trimester is prescribed. Importantly, the baby is being continuously fed, while the mother is fed intermittently, thus irrespective of the therapy, women during pregnancy are likely to develop early morning hypoglycemia the risk of which can be reduced by adding a late-night protein-rich snack. Providing healthy food choices along with daily blood glucose monitoring, insulin dose management becomes easy and effective. To meet the continuous demand of the growing foetus, the macro and micronutrients must be increased trimester-wise. Adherence to MNT helps in maintaining euglycemia and a healthy fetal outcome. Family counselling is essential to bust the myths about diet during pregnancy. Moreover counselling on post-partum healthy dietary practices and lifestyle modification is equally important to prevent the development of diabetes amongst GDM women.

5. Women with GDM are at a higher risk to develop type 2 diabetes in the future. What strategies do you follow to ensure timely follow-ups post-delivery to prevent diabetes in these women?

70% of GDM women are likely to develop GDM in a subsequent pregnancy, while 50% of GDM women are likely to develop diabetes in the next 5-15 years after delivery. They are also at high risk for developing metabolic syndrome and cardiovascular disease in future. Moreover, the offspring of diabetic mothers are at increased risk of developing obesity, T2DM metabolic syndrome and CVD in their adult life. Thus, GDM is a window of opportunity for delaying/reversing the progress of becoming a frank T2DM. Postpartum healthy dietary practices, regular exercise and lifestyle modification in such women can help in the prevention of these non-communicable diseases.

We enrol every GDM woman in a special group, called GDM Club where they are contacted telephonically for follow-up. During their hospital visit, certain tests are performed annually: OGTT, lipid profile, HbA1c and primary prevention strategies are emphasized.

Interview with Dr. AG Unnikrishnan



Dr. AG Unnikrishnan

MD, DM (Endocrinology), DNB, MNAMS
CEO of Chellaram Diabetes Institute, Pune

Dr. AG Unnikrishnan is an eminent Endocrinologist and the CEO of Chellaram Diabetes Institute, a leading diabetes institute in India and an International Diabetes Federation-certified centre for education and excellence in diabetes care. He heads clinical care, research, education and also oversees a philanthropic rural diabetes care program run by the Institute.

He also heads the newly formed Chellaram Diabetes Research Center, which is in the field of innovations in diabetes-related diagnosis and management and the Institute's e-learning academy. He has contributed immensely to diabetes education by heading the educational programs at Chellaram Diabetes Institute. He has published & edited various journals over the years and has won several awards.

Excellence in Upskilling Diabetes Educators



1. Diabetes management requires a holistic approach with diabetes educator (DE) playing a pivotal role. What is your message to the DEs on the same?

Diabetes management requires a holistic approach because when a person with diabetes meets the doctor, the person spends hardly a few minutes in the doctor's chamber. This discussion is mainly about diabetes markers such as HbA1C or changing medication. But there is valuable information to be conveyed about how to monitor, take the medication, inject insulin, follow the diet and what is the optimal exercise. All these aspects which are very essential in diabetes management are covered in a very limited duration during doctor's meetings. A single visit and a prescription from a doctor might help in short-term control, but a lifetime of diabetes needs a more rigorous adherence to drugs and lifestyle modifications. This is where DEs make their mark. A DE coordinates the entire care of diabetes patients and studies have shown that care coordinators have a very important role to play in education for reaching targets for guideline-directed therapy and in improving the quality of life. They help to improve the confidence levels of the patient about self-management. Therefore, a person with diabetes will benefit from the help of a DE who essentially makes sure that the prescription or advice which is given by the doctor is implemented fully and if some part has been missed out by the doctor that aspect also the DE can help counsel the patient, especially diet and exercise.

2. What are the attributes of a good DE?

The attributes of a good DE are first, the DE must have a sympathetic approach. People with diabetes are already worried about the effect on their blood glucose levels. They are often aware that high blood glucose levels can lead to kidney disease, foot disease, blindness and heart problems. They are already anxious. This is where a good DE can firstly, through empathy and sympathy, help in calming the patient. The second attribute of the DE is the ability to listen. The ability to listen is a very very underrated ability and sometimes a DE can get very important insights into the patient's condition as well as the factors which prevent the medical team from reaching glucose targets by just listening to the patients. The third important aspect of the DE is accessibility – the patient would like the health professional to be accessible to answer their queries. Last, but not the least, a DE should have a good overall idea about diabetes and its therapy.



3. How can a DE upscale his/her counselling skills to ensure better self-management of diabetes?

One of the important ways a DE can upscale his/her counselling skills is by just listening to the patient and participating actively in the doctor-patient conversation. A good doctor, good nutritionist or good physiotherapist is one who also empowers their DEs to help the patient. So finding a good diabetes team to learn the appropriate counselling skills will ensure that people with diabetes are looked after by excellent DEs.

4. How important is effective communication in clinical practice?

Communication is very important in clinical practice. DEs need to be good speakers. They need to communicate well to their patients. In addition, they need to communicate well by taking awareness classes for the community and also for other medical care professionals. A good DE with a good knowledge of diabetes-related therapies, technologies and lifestyle advice can even be of great value in teaching all cadres of healthcare professionals. Let us take the example of insulin. Sometimes patients refuse to take insulin for years and years. Despite blood glucose levels being high, despite being on many oral pills, many patients refuse to accept that they require insulin and therefore suffer from hyperglycemia for years. And when insulin is started it is often too late. This is where the DE can do an appropriate communication, firmly insisting on the importance of insulin while gently emphasizing the ease with which insulin can be taken. This combination of empathy, compassion with firmness will go a long way in effective communication.

5. How can DEs widen their scope of work? Is research an option?



DEs can widen their scope of work in many ways. One option is research. Participating in high-quality clinical research where nutritional studies are carried out or where lifestyle studies are carried out is very important. There is also a need for DEs to train themselves in clinical research because DEs can become excellent clinical study coordinators. Finally, DEs can themselves do a PhD in research where they study some aspects of diabetes management like exercise, nutrition, or the psychosocial aspects so that they can broaden their research skills. This focus on research can help them to support a larger proportion of patients. Finally, DEs can also broaden their scope of work by

taking an active interest in technology. Technology is changing diabetes practice and today technology is bringing diabetes patients closer to their goal of reaching targets. In fact, more or less, diabetes management is in the hands of the patients after the advent of newer tools for glucose monitoring. Insulin pumps have revolutionized diabetes management in type 1 diabetes. Therefore, by taking an active interest in learning technology which includes both exciting technology like new generation pumps and the artificial pancreas as well as simple technology such as how to use a glucose monitoring device or correct technique of using an insulin pen or troubleshooting issues with glucose monitoring devices and insulin pens, the DEs can play a huge role in helping to alleviate the suffering of people with diabetes across the world.



Interview with Dr. Jothydev Kesavadev



Dr. Jothydev Kesavadev

**MD, FRCP (London Glasgow, Edinburgh),
FACP, FACE, FRSSDI**
Chairman, Jothydev's Diabetes Research
Centers, Kerala

Dr. Jothydev Kesavadev is a renowned Diabetologist, Physician and Researcher. He is the Founder, Chairman and Managing director of Jothydev's Diabetes Research Centers based in Kerala. As a man of innovation, he involved himself in the digitalization era learning many software skills and was the first to introduce the telemedicine concept in diabetes patient follow-up in the year 1998. He is also the pioneer in modern Insulin Pump therapy in India. He is internationally known as one of the largest users of insulin pumps and real-time glucose-sensing devices in Asia. Dr. Jothydev Kesavadev has several scientific publications to his credit.

Excellence in the Use of Technology in Diabetes Management



1. You are known as the Diabetes Tech Guru of India. How does technology give a healthcare professional (HCP) an edge over others?

I think this is a very important question. We have been using various modalities for treating diabetes. For many years, we have been advising our patients on lifestyle changes; we have been using oral drugs and we have been using insulin for more than 100 years. But if you look at the outcomes of diabetes, if you look at the average haemoglobin A1c in India, it is still higher than our expectations. So, the conclusion is that drugs alone or innovations related to therapeutics alone cannot probably make a change in diabetes management. The successful outcomes are the result of interventions, innovations and technologies. So, when you add or when you integrate technologies into existing medications and lifestyle changes, then the results are simply surprising. We have been using telemedicine and other technologies in diabetes for more than 25 years now. Those patients who are following the instructions on technology are the ones who are extremely successful. In diabetes, there are 5 parameters such as haemoglobin A1c, LDL cholesterol, albumin creatinine ratio, blood pressure, body weight etc. and with the use of technologies or with the use of a smartphone application, the patients can safely reach and sustain all the targets. Thus, the dream of remaining within the target is possible not only for glucose but also for all the other parameters, with the smart integration of technologies in clinical practice.

2. Can you elaborate on some of the newer technologies for better glycemic control and adherence to treatment?

The newer technologies which are proven to be useful in improving glucose control and in ensuring adherence to the treatment include mobile phone applications which guide in creating an ambulating glucose profile, which helps patients to recognise their Time In Range not only for just 14 days but even for the last 24 hours. Alerts on impending hypoglycemia or hyperglycemia are possible with real-time continuous glucose monitoring (CGM) devices. Some of the mobile applications include personalized coaching for patients. Apple Health has an option where a person can enter medications. The Apple watch will remind you if the person has forgotten a dose. The wearable device or mobile phones provide the users with an alert feature reminding them that it is time to administer the bolus dose of insulin or that an anti-hypertensive drug was missed.



With the smart use of technology, one can definitely improve glucose control and drastically reduce the overall cost of diabetes care. So, the number one path-breaking newer technology, I would say, is mobile health applications. Let me tell you this; not all of them are good but some of them are really good.

After 100 years of the discovery of insulin, I would say that the most important or life-saving discovery I will vote for is CGM devices. Artificial intelligence, CGM, automated insulin delivery devices and even mobile health applications help us improve diabetes care, reduce the cost, and improve adherence to therapy. One of the most important challenges in diabetes care is adherence to the instructions; may it be lifestyle interventions or instructions on timely intake of drugs. If there is a reminder function which is available or if there is an option for you to check whether the patient has taken the drugs according to your instructions, it is going to improve the adherence. In our experience, we have also observed that when telemedicine is integrated with pharmacy, it ensures drug adherence.

3. With India having so much diversity in terms of literacy and economic strata, how well is technology accepted amongst the patients?

I certainly agree that a certain amount of literacy and knowledge is absolutely essential for the successful use of technology. But I don't believe that all the technologies are expensive. There are technologies which are relatively less expensive and even technologies which are extremely useful as a lifesaving option, available completely free of cost. One such example is the connected glucose meters which come along with a mobile app, with a wide variety of options.

4. What are the challenges that you face and how do you tide over them?

It is how you interact with your patients, how you introduce technologies to the patients as a doctor, and how the diabetes educator is training the patients on the use of technologies. These are the factors which will directly influence how the patients are adopting technologies. Technologies shouldn't be introduced to patients as a difficult-to-use option in diabetes care. It should be introduced as a part of therapy and that it is going to be a partner in achieving the goals of diabetes management. This is where language matters. Until very recently, the adaptability of technologies was very less but during the past few years, especially during the post covid era, there is widespread adoption of technologies. People have started realising that with the use of telemedicine, smartphone, glucose monitoring and CGM devices, the control is far superior and they are able to attain their treatment goals.

But I would say that the biggest challenge that I face in my clinic or any hospital for that matter, is the extra time spent in introducing technology. Even if it is a simple connected glucose meter, we need to spend extra time; the introduction, and consenting of the patient also require time and there is always this possibility that the patient may or may not accept it and we should be mentally prepared for it. This challenge can be overcome with the help of trained diabetes educators, dietitians and nurses in the hospital. I have seen that many doctors start using technologies in diabetes but when the first few patients fail, they become disappointed and may completely stop using technologies. This should never happen. The doctors need to use it regularly to understand how to troubleshoot, and how it is going to really help in routine practice.

5. What advice would you give HCPs to stay updated with newer technologies?

My advice to healthcare professionals is that they should be updated on technologies, unlike medications which may be existing for more than 50 years. Technologies will not remain the same. So, when you are using a technology you should be prepared to update it, you should be prepared to learn and get trained on it. It is not going to be something which is static, it is dynamic. Every year there could be a new model for your smartphone. Likewise, CGM technologies, insulin pumps, automated insulin delivery devices and artificial intelligence will keep on improving. Hence, we need to update, we need to keep on learning to continue to use the technologies successfully. I will advise the healthcare providers to get acquainted with the technologies, and use them for themselves or their relatives at home before they start using the technologies for their patients. Especially the simple-to-use technologies. It enhances the confidence and you yourself will be convinced of its reliability and its immense benefits.



Interview with Dr. Sandeep Julka



Dr. Sandeep Julka

MBBS, MD (Medicine), DM (Endocrinology)
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Dr. Sandeep Julka has been practising as both an adult and pediatric Endocrinologist for the past 18 years. His special interest is in designing preventive strategies for metabolic and lifestyle disorders. He has a background in sports having been a sportsperson from his school days and has represented Madhya Pradesh state in football nationals. He is the present reigning IMA lawn tennis champion. He has been a part of several clinical trials. He has many publications in national and international journals.

Excellence in Promoting Exercise in Diabetes Management



1. You have been a role model in promoting physical activity. How important is it to practice what you preach?

I feel that we doctors are role models for the citizens especially for patients as far as healthcare is concerned. Patients who walk into our clinic always observe how we dress, how we look and how we talk and it makes a big impact. In fact, whatever you suggest to a patient will be followed more if he feels that you walk the talk and I make sure that I walk the talk. We also treat childhood obesity, so the children are motivated to see that the doctors are fit and healthy. In my clinic, there is a wall where I have put up my certificate and medals from the half marathons and lawn tennis championships. I make sure kids see this to get the message that it is important to be healthy.

2. Most Indians follow a sedentary lifestyle, putting them at a higher risk of non-communicable diseases. How do you push your patients to take up exercise?



The first step in motivating your patients to exercise is to exercise yourself as stated in the earlier question. Next is to make sure that they understand what exercise is. Any physical activity which is structured - is exercise, so anyone doing household chores is exercising as well as anybody washing utensils, washing clothes, sweeping, mopping, and gardening will also be considered as exercise. It is important that we individualise exercise plans for somebody who is a homemaker or for somebody who is working in an institute or working in a corporate. There is no one size fits all.

3. What is the most common excuse that you come across in your practice for avoiding exercise? How do you address the same?

The most common excuse that I encounter is the lack of time and the lack of place. I tell my patients, if you get time to eat food, go shopping, eat out etc., you might find time for exercise as well. It is said if you don't find time for health you will find time for illness. Health is the crown of a healthy person only the sick can see.

4. How do you come up with an exercise plan for your patients?

It is very important that we individualize the exercise plan for all our patients. Similarly, we have to individualize plans for kids of various ages as well. Any child above the age of 6 years must have an hour of exercise daily. Exercise doesn't mean going to the gym. It could be cycling, it could be dancing or whatever hobby the child wants to pursue. Similarly in adults, a homemaker will have a different plan, and somebody going to the corporate world will have a different plan.

Simple daily activities like parking your car away from the building, and taking the stairs instead of the elevator/escalator. Moving about in your office every 30 to 40 minutes so that you are not sitting in one place for a long period of time are simple methods to increase physical activity.

5. Can a DE give an exercise prescription, or do they need any further specialized qualifications in fitness?

Simple ways and means to exercise can be explained by all - the doctor, the diabetes educator, and even the dietitian. However, when you want specialized groups of muscles to be exercised, and specific training to be given to people with comorbidity, you need specialization and it is better to have somebody who knows the field of fitness training with muscle training and aerobic resistance training.

Hopefully, this small article will motivate doctors to exercise themselves and motivate their patients in turn. After all, health is our responsibility and once we are healthy only then we can impart what we have. Jai Hind!



Interview with Dr. Nitin Kapoor



Dr. Nitin Kapoor

MBBS, MD (Med), DM (Endo), Post Doc Fellowship (Endo), PhD (University of Melbourne)
Professor and Head (Unit 1) of
Dept of Endocrinology, Diabetes and Metabolism,
Christian Medical College, Vellore

Dr. Nitin Kapoor is a Professor and Head (Unit 1) of the Dept of Endocrinology, Diabetes and Metabolism at Christian Medical College, Vellore. He has been conferred with many medals and awards for excellence in Endocrine research. He has numerous PubMed-indexed, peer-reviewed publications in national and international journals. He is the editor of the current and the previous edition of the book “A Practical Guide to Diabetes Mellitus” released in April 2018.

Excellence in the Field of Research



1. You have so many national and international publications to your credit. How did your journey with research begin?

Thank you for this question, I think I would give credit to my first mentor in research way back in 1999 – Dr. (Prof) Prabha Adhikari Madam in Mangalore, for nurturing my initial interest in research. I had worked on a project with her to study the traditional beliefs in the management of diabetes in the Indian setting for which I was also awarded the ICMR short-term studentship award of the year. After that, I met Dr. Neeta Deshpande who further nurtured my interest in the field of obesity and then there was no looking back. Thereafter, research during my endocrine fellowship, during my DM course at CMC Vellore and PhD at the University of Melbourne all helped to build up my research career.



2. How do you find time for research with a very busy clinical practice?

Yes, it is hard to balance time between busy clinical practice and research. At CMC Vellore our daily hospital OPDs run over 10,000 patients a day but at the same time research and education are given equal importance by the institution. Unlike in the West, where clinician-scientists can decide what proportion of their time, they divide between the two, in countries like India often research commitments need to be done over and above clinical work.

But I think where there is a will, there is definitely a way. One definitely needs to have that passion to pursue research but time management can be made

better through teamwork, collaboration and using smart software for documentation, analysis and writing.

3. Research seems complicated and time-consuming which often demotivates HCPs to take it up. What is your take on this?

I would again say, where there is a will there definitely is a way. I agree, the initial stages of research are time-consuming and looks complicated, but once we have made systems in place, it can be made much easier. I strongly believe, if you have a genuine clinically helpful research question you can definitely find ways to implement it effectively. Talking and learning from other experienced colleagues has always helped me.

4. Are there any data management software available to facilitate the clinician for research work?

We at CMC Vellore, use an in-house designed software for managing data. I am aware of several commercial software that are available for the same but have not used any personally to be able to endorse the use of any specific one.

5. What according to you is the future of diabetes research in India?

The future of diabetes research is definitely very bright. We have a lot to learn from our pioneers in the country who are leading by setting their example. Several national and international bodies now offer funding for both clinical and basic science research in the field of diabetes. This has definitely opened several more opportunities to obtain research funding than what was existing many years before. I think as technology has entered most spheres of our daily living, it is likely to also have a major impact on diabetes-related research as well.



Interview with Dr. Neeta Deshpande



Dr. Neeta Deshpande

MD, FRCP (Edin), PG Endo (Lond),
ASBP Obesity Cert (USA)

Diabetologist and Bariatric Physician at Belgaum
Diabetes Centre, Children's Diabetes Centre &
Weight Watch Obesity Centre, Belgaum
Prof, HOD Medicine, MM Dental College,
Belgaum Associate Prof, Medicine, USM-KLE
International Medical Program

Dr. Neeta Deshpande is a Diabetes and Obesity expert and a strong crusader for lifestyle and behavioural modification as a means of preventing and treating non-communicable diseases such as obesity, pre-diabetes, diabetes, fatty liver disease, etc. She is an avid researcher and academician, having been active in the field of research and has published and presented several papers in prestigious national and international journals and conferences. She is a prolific orator and has authored chapters in textbooks on diabetes and obesity. Dr. Neeta has been a strong force behind helping many patients achieve diabetes remission via her signature Lifestyle Program-Reversal of Diabetes. She has also helped hundreds of patients achieve their goals of reducing weight by structuring customized plans.

Excellence in Obesity Management



1. Obesity is now recognized as a disease. What are your views on it with regard to the Indian population?

Obesity is on the rise in India in a big way. Unfortunately, most people do not even know that they are overweight/obese. Moreover, people do not accept it to be a disease, in India. Most would believe that it is just a matter of eating more and less exercise that has led to the condition. Therefore, awareness not only regarding the parameters that define obesity but also that it is a chronic condition that needs expert, scientific help, is imperative.

2. From a diabetologist to a metabolic physician – How did this transition happen?

When I started an exclusive diabetes centre 25 years ago, diabetology itself was an upcoming branch of medicine. When I began to realize that nutrition, weight loss and lifestyle modification were not being given the attention they deserved, I decided to delve deeper, and this led to my foray into the field of obesity and metabolic medicine. Just asking the patient to lose weight never led to any tangible results. Only when objective lifestyle methods were offered did we begin to see outcomes. And so, the transition was inevitable and important.

3. What are the prerequisites for setting up an obesity centre of excellence?

The key was to form a team. Unlike diabetes, which also requires a lot of counselling, obesity treatment needs a lot more. So, the basic pre-requisite is the development of a multi-disciplinary team, with some permanent members, and some on call. Secondly, a non-judgmental atmosphere that percolates into the entire interaction of the team with the patient is most important. Of course, the physical aspects of a clinic, such as assessment tools, algorithms, etc. are important too. Last, but not the least, the passion and updated knowledge of the entire team make a centre one of excellence.



4. How do you tackle a weight loss plateau?

The weight loss plateau is the most dreaded stage in the weight loss journey of the patient and the obesity team. A good exercise prescription that can combat the sluggish metabolic rate, including resistance training, adequate protein intake and of course, continued motivational support is very important. But today, in addition to all this, we now have good pharmacotherapeutic agents like the GLP-1 RAs that can aid in combating this plateau.



5. As we all have experienced, maintaining the lost weight is a major challenge. How do you ensure the sustenance of weight loss in your patients?

Follow-up, follow-up and continued follow-up! Research has conclusively shown that the patients who continue to be in touch with the healthcare provider are the ones who are most likely to maintain their weight loss. Secondly, regular exercise including strength training, of at least one hour daily, is extremely important for weight loss maintenance. Eating right and establishing a new “normal” will go a long way. Lastly, there will be those who may need medicines to maintain weight loss.

Interview with Dr. Dakshata Padhye



Dr. Dakshata Padhye

**MBBS, Post Graduate Diploma in
Diabetology (PGDD)**

Preventive Diabetologist & Director at Conquer
Diabetology Centre, Mumbai

Dr. Dakshata Padhye is a renowned Diabetologist and the Director of Conquer Diabetes Centre in Mumbai with an experience of over 20 years in this field. She is the founder of Om Diabetes Club, a support group for people with diabetes and Diabetes Revise & Update Meets for physicians, gynecologists and pediatricians. She has many publications to her credit in both national and international journals of repute. She regularly conducts patient education programmes, exhibitions and diabetes prevention programmes in schools & colleges. She has won many awards for her work in the prevention of diabetes.

Excellence in Diabetes Prevention



1. While diabetes treatment is the major focus area for most clinicians, what motivated you to choose diabetes prevention as your forte?

In the last 23 years of my practice including my training period in SL Raheja Hospital, I have realized that the occurrence of diabetes complications is not only due to hyperglycemia but majorly due to lack of awareness, lack of patient education and not evaluating the end organs regularly and in the early period of diabetes. So basically, if you don't measure any problems you can't tackle that problem. To prevent complications you need to have a preventive practice hence patient education, patient empowerment, regular monitoring and most importantly evaluation of each and every complication (evaluation of eyes, heart, kidney, feet) and all the biochemical parameters (like blood glucose, lipids, thyroid, and urine microalbumin) is a must. Education, empowerment, and monitoring are the three important keys in preventive diabetes practice.

2. How did you set up the Diabetes Prevention Program and what does it entail?

Our prevention program has two features:

- Prevention of diabetes in people who are at high risk for diabetes: So we thought of evaluating the sons and daughters of our own patients. Rather than going around the community, we thought that people who have first-degree relatives (i.e. parents having diabetes) are most prone to diabetes. So, to fight against the tsunami of diabetes we need to consider the undetected population with pre-diabetes and the high-risk population who do not have diabetes but they can get diabetes. We make them aware of the risk of developing diabetes with positive reinforcement of lifestyle modification. We use these 2 scores: the Finnish Diabetes Risk Score (FINDRISC) and the Indian Diabetes Risk Score (IDRS). The incidence of pre-diabetes and to some extent of diabetes in the children of patients is huge. If in a month we are evaluating 100 people (these are sons and daughters of

patients) who are in the age group of 20–40 years, you can say 20% of patients already have pre-diabetes which they are not aware of and at least 5–7% patients have diabetes which is diagnosed by just doing one random blood sugar test and using FINDRISC and IDRS.

- Prevention of complications in our patients: As mentioned above about the complication evaluation program in which patients come in the morning, till the afternoon annual evaluation of all the end organs is done and in one go all the complications are evaluated. We do not believe in a cafeteria approach where patients can choose which tests they want to do based on their symptoms. You should evaluate all the complications as per American Diabetic Association (ADA) for patients with or without any symptoms. At least 10% of patients have neuropathy without any symptoms. Almost 10–15% of patients already have peripheral vascular disease but they don't have symptoms, they don't have non-healing wounds, so they are not taking care. Once you do these check-ups, they are aware and they start taking care. Don't wait for any clinical symptoms because the first five years of diabetes are very important metabolically. For the first five years, patients' sugars will be 200–300 mg/dL, maybe HbA1c around 8–9% but patients won't have symptoms so this is the time when we need to evaluate the complications, make them aware and start taking preventive steps.



3. What is the role of a diabetes educator (DE) in the prevention and early diagnosis of diabetes?

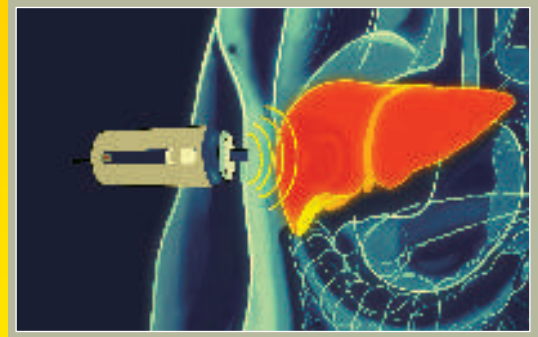
I would say a huge, very important and irreplaceable role. 10 years back when I was discussing with a few international speakers from Mayo Diabetes about diabetic foot complications and they said we don't have a single amputation happening in the last 2–3 years, I was really surprised to know this. Upon asking them how and what they do they said “We don't do anything our DEs do everything”. Most of the time when patients come to a diabetes clinic they spend more time with our DEs and that was the thing that triggered me as to why is this only in Western countries, we should also have our nurses and nutritionists who are majorly in touch with our patients getting educated in preventive diabetes practice. And we all know that the IDEJ is so educative, this journal is superb. Conquer Diabetes (my centre) staff reads all the journals and they are all trained and certified by the National Diabetes Education Program (NDEP). Being certified is required but being trained and practising is very important. Educating and training DEs is a must. The more they come in contact with patients, the more they follow up with them, and the more they learn. Each patient is like a book to them, so they are reading that book over the period of 2–3 years and then after 3–4 years, they are the champions of diabetes care. DEs also have a very important role to bust the common diabetes-related myths that patients have. I can vouch for it that DEs can really revolutionize the treatment path and the outcome of any diabetes patient.



4. Your work in NAFLD is widely known. Can you tell us a little bit about it and is there a link between NAFLD and diabetes?

Definitely, there is a link between non-alcoholic fatty liver disease (NAFLD) and diabetes. During the pandemic and pre-pandemic days, we started getting a lot of patients mainly with hematemesis or ascites or signs of liver cell failure and every time we would go for sonography, a patient already had cirrhosis. These patients never had any symptoms of liver disease. So this was very alarming. I then started attending a few hepatic conferences and in

every conference, they spoke about the new nomenclature of metabolically active fatty liver disease (MAFLD) more than NAFLD. MAFLD can be easily diagnosed, you just have to check LFT (liver function tests) and CBC (complete blood count) as per your ADA panel. In fact, ADA also advises basic sonography, SGOT, SGPT and CBC. So, there is one score called as FIB-4 score (fibrosis-4 score). It's so simple and it is available online, you just have to enter the values of patients' age, SGOT, and SGPT from your LFT panel and platelets. If your score is <1.3 then your risk for cirrhosis is low. But if your score is between 1.3–2 it is still recoverable, so immediately subject that patient to FibroScan. FibroScan is an advanced sonography kind of investigation which



determines the stiffness of the liver. If the investigation shows a stiffness score high that means the patient is progressing towards cirrhosis and one good news is if your score is between 1.3–2 patient's cirrhosis or steatohepatitis can be reversed. If you can diagnose this early, many patients can be prevented from progressing towards cirrhosis. Treatment including lifestyle modification with 10% weight loss, a few drugs which control blood sugar, as well as steatohepatitis and reverse cirrhosis, can be initiated. Coming to the statistics for MAFLD, we have evaluated around 400–500 patients for FIB-4 score. The incidence of FIB-4 score 1.3–2 is almost 20%. Thus 20% of the patients already have some kind of steatohepatitis and pre-cirrhosis condition which can be preventable. I think DEs should be trained to maintain the FIB-4 score and monitor it and get the people with higher scores to do a FibroScan which can help in early diagnosis and prevention of liver disease progression. Pharma companies are also helpful in getting the FibroScan done. If a patient has already developed cirrhosis, they should be referred to a hepatologist.

5. What are the resources (tools/manpower/equipment) required to set up a centre of excellence in diabetes prevention?

First is 'vision' and then next comes a team who can resonate with your vision and the vision should always be "you have to contribute to your diabetes society."

Vision has to be very clear. In any practice of course finances are required. Whenever you are thinking about putting up a setup everybody is scared to invest in instruments, and then invest in manpower as well to use those instruments. I feel that when you are doing something for a preventive cause, eventually your patients will realise that this is needed for them and they start getting things done and everything works out. First, whether it will work should be removed from your mind. So, vision has to be very clear and you have to be very confident about your vision.

The team has to be motivated and then what you need is simple. Point of care machines if you can have for HbA1c, lipid profile, basic instruments like ECG, instruments for eye health, and tests for urine microalbumin. Then you can have biothesiometer for neuropathy, doppler for vasculopathy, and podiascan for abnormal plantar pressure measurement. One can be trained in podiatric preventive practices. After evaluating everything, you need to know how you should be giving a prescribed footwear or at least insole, and every patient should be given proper customized foot care tips. It's not just evaluation, after evaluating it is also important how to educate patients, how to make them aware and how to positively reinforce them. Patients should not get scared about the complications. They have to be confident about the healthcare team. So it is a team effort with some good infrastructure.



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**A1C REDUCTION
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Abridged Prescribing Information

Indications: It is indicated as an adjunct to diet and exercise to improve glycaemic control in adults with type 2 diabetes mellitus.

Dosage and Administration: The recommended dose is one tablet daily. Each tablet contains a fixed dose of dapagliflozin, Sitagliptin and Metformin Hydrochloride.

Adverse Reactions: Most common adverse reactions reported are: Dapagliflozin: Female genital mycotic infections, nasopharyngitis, and urinary tract infections; Sitagliptin: Upper respiratory tract infection, nasopharyngitis and headache.

Metformin: Diarrhea, nausea/vomiting, flatulence, asthenia, indigestion, abdominal discomfort, and headache.

Warnings and Precautions: Dapagliflozin: Volume depletion; Ketacidosis in Patients with Diabetes Mellitus; Uricospuria and Pyelonephritis; Hypoglycaemia; Genital Mycotic Infections.

Sitagliptin: General: Sitagliptin should not be used in patients with type 1 diabetes or for the treatment of diabetic ketoacidosis. Acute pancreatitis; Hypoglycaemia when used in combination with other anti-hyperglycaemic medicinal products; Renal impairment; Hypersensitivity reactions including anaphylaxis, angioedema, and exfoliative skin conditions-Stevens-Johnson syndrome; Bullous pemphigoid. Metformin Hydrochloride: Lactic acidosis; In case of dehydration (severe diarrhea or vomiting, fever or reduced fluid intake), metformin should be temporarily discontinued and contact with a healthcare professional is recommended.

Contraindications: Hypersensitivity to the active substance of Dapagliflozin, Sitagliptin & Metformin or to any of the excipients listed. Any type of acute metabolic acidosis (such as lactic acidosis, diabetic ketoacidosis). Diabetic pre-coma; Severe renal failure (eGFR < 30 mL/min); Acute conditions with the potential to alter renal function such as: Dehydration, Severe infection, Shock; Acute or chronic disease which may cause tissue hypoxia such as: Cardiac or respiratory failure, Recent myocardial infarction, Shock, Hepatic impairment, Acute Alcohol intoxication, alcoholism.

Use in a special population: Pregnant Women: Due to lack of human data, drug should not be used during pregnancy. Lactating Women: It should not be used during breastfeeding. Paediatric Patients: The safety and efficacy of drug has not yet been established. No data are available. Geriatric Patients: In Patients > 65 years, it should be used with caution as age increases.

Additional information is available on request.

Last updated: January 01, 2023

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For the use of registered medical practitioners, hospital or laboratory.*



Enhancing Patient Psychosocial Support: A Doctor's Experience on the MyCare Patient Support Program



Dr. G Satish Kumar

M.B.B.S.

Consultant Diabetologist, J R's Diabetes & Wellness Centre, Telangana

A 33-year-old male diagnosed with type 2 diabetes mellitus (T2DM) 8 months ago is being managed by Dr. G Satish Kumar.

Here's what Dr. Satish has to say:

The patient was admitted in the hospital for urinary tract infection, during which his random blood sugar was elevated and he was diagnosed with T2DM. At the hospital he was started on insulin therapy as the oral medications were not effective. Post discharge, I counselled him on the importance of healthy diet and lifestyle and explained the importance of injecting insulin prior to major meals. He was however of the belief that the insulin was not needed. The patient, in my opinion, was very hesitant about injecting insulin especially during working hours.

Here is where, I sought assistance from Madhurima, the MyCare diabetes educator (MDE). During counselling she realized that he had developed a negative mind set post diagnosis and that he was avoiding injecting insulin at work. He was reluctant to tell his co-workers about his ailment because he feared they would treat him differently or gossip about him. The MDE made him understand that there was no shame in telling people he had diabetes. She gave him examples of office-going people his age who have T1DM and how they are open about it. She made him aware of how helpful it would be to have someone at work who knows about this in-case of any emergencies.

She was very supportive and was in constant touch with him via text and call. During the follow-ups she motivated him and changed his negative mind set on diabetes. She helped him overcome his fear of frequent pricking by following the 'Staggered method' for checking blood glucose levels and also taught him how to correct hypoglycemia correctly.

Together with my medical intervention, regular follow-ups and the MDE's timely education have helped me achieve positive results with my patients who have diabetes.



Ms. Madhurima Das

NDEP and T1DE Certified Diabetes Educator

Here's what Madhurima has to say:

Regular follow-ups, and counselling showed tremendous effects. By the end of 1½ month the patient's outlook towards insulin had completely changed. He started taking much more interest in his meals and would always ask queries with regards to diet, exercise, or medication.



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*PWD: People with Diabetes

In Uncontrolled Obese T2DM,

START with.

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Metformin Hydrochloride 1000 mg SR + Glimepiride 1 mg

Glycomet-GP 2 FORTE
Metformin Hydrochloride 1000 mg SR + Glimepiride 2 mg

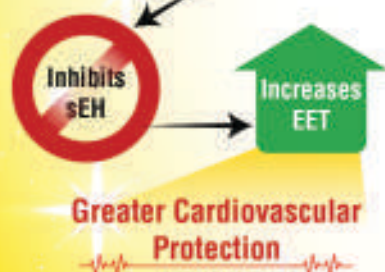
Glycomet-GP 3/850
Metformin Hydrochloride 850 mg SR + Glimepiride 3 mg

January 2023*

ESC*

European Society of Cardiology

Long term continuous usage
of High Dose Glimepiride:



Meta analysis of
21 well established
trials*



5% Reduction of Weight
Vs Baseline Weight²

100%
Availability

20-50%*
Affordable
vs other brands

Appropriate to add
along with Newer AHAs

1. Glimepiride use is associated with reduced cardiovascular mortality in patients with type 2 diabetes and chronic heart failure, a prospective cohort study | European Journal of Preventive Cardiology | Oxford Academic (oup.com) 2. Ther Adv Endocrinol Metab 2020; Vol 11:1-12 DOI: 10.1177/2042018820926000 # Data on file *As compared to non-glimepiride group
EET: Epoxyeicosatrienoic acid; sEH: soluble Epoxide Hydrolase; AHAs: antihyperglycemic agents; T2DM: Type 2 Diabetes Mellitus

Prescribing Information

Information: Metformin hydrochloride (as prolonged release) and glimepiride tablets. Glycomet-GP 0.5/Glycomet-GP 0.5 Forte/Glycomet-GP 1/Glycomet-GP 1.5/500 Glycomet-GP 2/Glycomet-GP 2/850/Glycomet-GP 3/Glycomet-GP 3/850/Glycomet-GP 4/Glycomet-GP 4/850/Glycomet-GP 1 Forte/Glycomet-GP 2 Forte/Glycomet-GP 3 Forte/Glycomet-GP 4 Forte. **Contraindications:** Glycomet-GP 0.5mg: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500mg and glimepiride IP 0.5mg. Glycomet-GP 0.5 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 0.5mg. Glycomet-GP 1: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 1 mg. Glycomet-GP 1.5/500: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 1 mg. Glycomet-GP 2: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 2 mg. Glycomet-GP 2/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 2 mg. Glycomet-GP 3: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 3 mg. Glycomet-GP 3/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 3 mg. Glycomet-GP 4: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 4 mg. Glycomet-GP 4/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 4 mg. Glycomet-GP 1 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 1mg. Glycomet-GP 2 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 2mg. Glycomet-GP 3 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 3mg. Glycomet-GP 4 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 4mg. **Indications:** For the management of patients with type 2 diabetes mellitus when diet, exercise and single agent (glimepiride or metformin alone) do not result in adequate glycaemic control. **Dosage and Administration:** The recommended dose is one tablet daily during breakfast or the first main meal. Each tablet contains a fixed dose of glimepiride and Metformin Hydrochloride. The highest recommended dose per day should be 8 mg of glimepiride and 2500mg of metformin. Due to prolonged release formulation, the tablet must be swallowed whole and not crushed or chewed. **Adverse Reactions:** For Glimepiride, hypoglycaemia may occur, which may sometimes be prolonged. Occasionally, gastrointestinal (GI) symptoms such as nausea, vomiting, sensations of pressure or fullness in the epigastrium, abdominal pain and diarrhea may occur. Hepatitis, elevation of liver enzymes, cholelithiasis and (usually may occur; allergic reactions or pseudo allergic reactions may occur occasionally. For Metformin, GI symptoms such as nausea, vomiting, diarrhea, abdominal pain, and loss of appetite are common during initiation of therapy and may resolve spontaneously in most cases. Metallic taste, cold erythema, decrease in Vit B12 absorption, very rarely lactic acidosis, Harelytic anemia, Reduction of thyroxine level in patients with hypothyroidism, Hypomagnesaemia in the context of diarrhea, Encephalopathy, Photosensitivity, hepatobiliary disorders. **Warnings and Precautions:** For Glimepiride: Patient should be advised to report promptly exceptional stress situations (e.g., trauma, surgery, febrile infections). Blood glucose regulation may deteriorate, and a temporary change to insulin may be necessary to maintain good metabolic control. Metformin Hydrochloride may lead to Lactic acidosis; in such cases metformin should be temporarily discontinued and contact with a healthcare professional is recommended. Sufferers have an increased risk of hypoglycaemia. Long-term treatment with metformin may lead to peripheral neuropathy because of decrease in vitamin B12 serum levels. Monitoring of the vitamin B12 level is recommended. Overweight patients should continue their energy-restricted diet, usual laboratory tests for diabetes monitoring should be performed regularly. **Contraindications:** Hypersensitivity to the active substance of glimepiride & Metformin or to any of the excipients listed. Any type of acute metabolic acidosis (such as lactic acidosis, diabetic ketoacidosis, diabetic pre-coma). Severe renal failure (GFR<30ml/min). In pregnant women. In lactating women. Acute conditions with the potential to alter renal function (dehydration, severe infection, shock, intravenous administration of iodinated contrast agents), acute or chronic disease which may cause renal hypoxia (cardiac or respiratory failure, recent myocardial infarction, shock), hepatic insufficiency, acute alcohol intoxication, alcoholism. **Use in a special population:** Pregnant Women: Due to a lack of human data, drugs should not be used during pregnancy. Lactating Women: It should not be used during breastfeeding. Pediatric Patients: The safety and efficacy of drugs has not yet been established. Renal impairment: A GFR should be assessed before initiation of treatment with metformin containing products and at least annually thereafter. In patients at increased risk of further progression of renal impairment and in the elderly, renal function should be assessed more frequently, e.g. every 3-6 months.

Additional information is available on request.

Last updated: March 12, 2023

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Interview with Dr. Ghanshyam Goyal



Dr. Ghanshyam Goyal

M.D., FACE (U.S.A.)

Senior Consultant Diabetologist & Diabetic
Foot Specialist at ILS Hospitals, Salt Lake, Kolkata

Dr. Ghanshyam Goyal is a consultant Diabetologist and a Diabetic Foot Specialist at ILS Hospitals, Kolkata. He started the first Diabetic Foot Clinic in Kolkata & Eastern India in 2000 and has received many awards for his work. He has authored case studies on diabetic foot and has presented papers at various national and international conferences. He has also been the principal investigator in various multinational trials.

Excellence in Diabetic Foot Care Management



1. You have done some path-breaking work in diabetic foot and are recognized globally. What generated your interest in foot care in diabetes?

From the year 1990-2000, I had seen a number of patients with diabetes. I had noticed a large number among them were having diabetic foot problems which was greatly neglected by the patients. At that time there was no diabetic foot care clinic or a department dedicated to the treatment of these patients. Also, there was very low awareness regarding diabetic foot complications and diabetic foot care among the population. This is the reason why I thought of starting a specialized clinic for the treatment of all kinds of diabetic foot-related problems.

2. What are the most common diabetic foot complications that you see in your clinic?

During day-to-day practice in my clinic, I see mostly different types of diabetic foot ulcers along with diabetic foot infections, gangrene, minor, and some major amputation. Among all these most dreadful complications is major amputation i.e. below-knee or above-knee amputation.

3. What reasons can you attribute for the same?

The cause of diabetic foot complications are mainly neuropathy, peripheral vascular disease, and infection. Apart from these lack of awareness by the patient regarding diabetic foot care and diabetic foot complications attribute to a great extent in the causation of diabetic foot problems. Healthcare professionals are also not well trained to handle such kinds of patients everywhere all the time.

4. What are the prerequisites for setting up a diabetic foot care clinic?

Truly speaking there is no such pre-requisite for setting up a diabetic foot care clinic. Only a pair of good clinical hands and a pair of good clinical eyes are sufficient. Other than this well trained diabetic foot educators or counsellors are required. In recent days almost all medical conferences conduct at least one scientific session related to diabetic foot management, thus helping healthcare professionals to acquire enough knowledge and training. Very minimum instruments are required in a diabetic foot clinic like monofilament, handheld doppler, biothesiometer, Harris mat etc. Basic surgical instruments are used for performing minor procedures like callus shaving, nail nibbling and others.



5. As they say 'A stitch in time saves nine', what is your message to DEs to save amputations?

According to me, the most important job of diabetic educators is to categorize diabetic foot patients into low-risk, high-risk, and very high-risk. The low-risk patients are advised to undergo a comprehensive diabetic foot checkup yearly even if there is no problem in the feet. The high-risk and very high-risk patients need to undergo frequent follow up as advised by the diabetic foot specialist. All diabetic foot patients should understand diabetic foot care principles thoroughly and should build all those habits throughout their life. Using modified diabetic footwear, cessation of smoking, good glycemic control and a prompt visit to the diabetic foot clinic whenever the patient feels any problem in his/her foot without any delay can save the patient from undergoing amputation. So my message to all patients with diabetes and DEs is - even trivial trauma/injury to feet should not be neglected and every patient should treat their feet as they treat their face.



Interview with Dr. Om J Lakhani



Dr. Om J Lakhani

MBBS, MD (Medicine), DNB (Endocrine),
SCE – Endocrinology (RCP-UK)
Consultant Endocrinologist at Zydus Hospital,
Ahmedabad

Dr. Om J Lakhani is a Consultant Endocrinologist at Zydus Hospital in Ahmedabad. He has an outstanding academic record winning numerous medals and awards for his work. His areas of expertise include endocrine oncology, metabolic bone disease, pediatric endocrinology and the use of new technology in the management of diabetes mellitus. He is a consultant to a number of healthcare technology start-ups and the developer of “Notes in Endocrinology” and “Endocrinology India” YouTube channel. He has more than 25 publications in national and international journals.

Excellence in the Use of Social Media and Artificial Intelligence in Diabetes Management



1. Social media and medicine - while they are two completely different worlds, how did you manage to bring them together?

Combining knowledge from different domains is the key to achieving something unique. My primary skill lies in Endocrinology, but I also have some minor skills in understanding technology trends, writing engaging content, and a bit of coding. By leveraging these skills, I have been able to bridge the gap between social media and medicine, achieving reasonably good outcomes in the social media and technology sphere.

2. How can healthcare professionals (HCPs) use social media to their advantage?



Social media offers a range of advantages for HCPs. Firstly, it provides a platform for HCPs to disseminate accurate medical information, raise awareness about health issues, and educate patients. HCPs can engage with a larger audience, including patients and other healthcare professionals, fostering collaborations and knowledge sharing. Additionally, social media can help HCPs build their professional brand, establish credibility, and connect with patients who may benefit from their expertise. It also allows for real-time communication and support for patients, leading to improved patient satisfaction and outcomes.

3. What are the do's and don'ts for HCPs while they use social media to reach out to their patients?

When using social media to reach out to patients, there are several important do's and don'ts for healthcare professionals to consider.

Do's:

- Ensure the information shared is accurate, evidence-based, and up-to date.
- Respect patient privacy and maintain confidentiality at all times.
- Use a professional and respectful tone in all interactions.
- Engage in meaningful discussions and provide valuable insights.
- Be transparent about professional affiliations and potential conflicts of interest.
- Stay updated with relevant guidelines and regulations regarding social media use in healthcare.



Don'ts:

- Share any personally identifiable patient information or confidential medical details.
- Engage in unprofessional or disrespectful behavior, including personal attacks or offensive language.
- Provide direct medical advice or treatment recommendations without a proper patient-doctor relationship.
- Promote unproven or misleading health products or services.
- Violate any legal or ethical standards while using social media platforms.

4. What is your take on the use of artificial intelligence (AI) by HCPs to give their clinical practice a much-needed edge?

AI is a powerful tool that can greatly enhance clinical practice for healthcare professionals. For example, we have developed a tool called EndoAI, which is accessible for free via www.endoai.co.in. It has been particularly useful in the field of endocrinology and diabetes. EndoAI provides accurate answers to endocrine and diabetes-related questions, showcasing the potential of AI in medical decision-making.

Moreover, AI has made significant advancements in computer vision models, enabling visual diagnosis in areas such as radiology, histopathology, and dermatology. These models improve the accuracy of diagnosis and treatment by assisting doctors in interpreting medical images and identifying patterns that may be missed by the human eye. Overall, the use of AI empowers healthcare professionals to make more informed decisions, optimize patient care, and improve outcomes in clinical practice.

5. There is a fear that AI will replace clinical practice. What is your viewpoint?

While AI has the potential to revolutionize healthcare, it is important to recognize that it will not replace clinical practice. Instead, AI will augment and assist healthcare professionals, placing them at the centre stage of patient care.

There are crucial aspects of medical practice that cannot be replaced by AI. The human touch, empathy, and the ability to connect with patients on a deeper level are irreplaceable. Doctors possess a sixth sense of making diagnoses and offering the right treatment, which is a unique skill that cannot be replicated by AI.

However, the integration of AI into clinical practice is inevitable. AI can process vast amounts of medical data, identify patterns, and provide valuable insights that assist doctors in making accurate diagnoses, personalized treatment plans, and proactive interventions. It serves as a valuable tool for healthcare professionals, amplifying their capabilities and improving patient outcomes. In conclusion, AI will not replace doctors, but doctors who embrace and effectively utilize AI will undoubtedly replace those who do not, ensuring they stay at the forefront of medical advancements and provide the best possible care to their patients.



Interview with Dr. Savita Bhat



Dr. Savita Bhat

**MBBS, DOMS Ophthalmology, MS Ophthalmology,
DNB Ophthalmology, Medical Retina Fellowship**
Consultant Ophthalmologist / Eye Surgeon,
Chellaram Diabetes Institute, Pune

Dr. Savita Bhat is a Senior Consultant Ophthalmologist in glaucoma, cataract and medical retina at the Chellaram Hospitals, Diabetes Care and Multispeciality in Pune. She has several publications in the field of glaucoma in leading journals. She has presented her papers nationally and internationally. She regularly takes part in lectures, instruction courses and workshops at both regional and national levels. She has also participated in several multinational clinical trials in ophthalmology.

Excellence in the Management of Diabetic Retinopathy



1. How common is diabetic retinopathy in India?



We all know that diabetes is a chronic disease and its incidence is going up and so are diabetes-related complications. Diabetes is not just a condition which raises blood sugar levels in the body, it can also affect various parts. Amongst them, it affects the small blood vessels of the eyes, kidneys and nerves and blood vessels of the hand and feet. Therefore, when it affects the blood vessels of the eye it causes a disease called diabetic retinopathy. Diabetic retinopathy can occur in 1 out of every 30 patients. 1 or 2% may have vision loss due to diabetic retinopathy. Therefore it is extremely important to screen every person with diabetes for diabetic retinopathy. In the initial stages, diabetic retinopathy may not produce symptoms, hence we screen

both patients with type 1 and type 2 diabetes at onset for the presence of diabetic retinopathy by taking fundus pictures or by examining them at the clinic.

2. It is advisable for people with diabetes to get a comprehensive eye examination once a year? Do you see this being followed?

There are patients who are living with diabetes for a couple of years but they are not aware that diabetes can affect their eyes. We see in our practice that even when patients are sent for packaged testing for the eyes they wonder why they are being sent. So I explain to them that diabetes can impact their eyes though they have perfect vision. They feel they do not have any symptoms in vision so why is this examination being done at all. In fact, they even feel that it is a waste of time or a money-making gimmick. So, it is sadly a

fact that people are not aware that diabetes can impact the eyes in a big way and that too in a very severe way even while the patient has perfect vision.

3. What do you think are the challenges and how does one address it?

Individual clinics and individual doctors make the patients aware that whenever you have diabetes it is important to get screened annually for diabetic retinopathy. So, if you do not have any changes in your retina you require to get it checked every year. At the same time there are patients who come to the clinic and they just want their medicines to be altered or their sugars to be controlled. They are not too interested in getting the rest of the check-ups done including blood evaluation for any other complications. In such a situation we try and educate their family and tell them that it can be hereditary. In rural setups where patients usually do not come and show their eyes or come and present themselves for examination, we have come up with several different devices. It is not really necessary nowadays to examine every patient after dilatation. There are a couple of non-mydriatic fundus cameras i.e. without applying drops we can take pictures and they are high-end specialized cameras where you can pick up pictures and examine the basic area of the fundus where you can get a fairly good idea whether they have got impacted with diabetic retinopathy or not. Unfortunately, diabetic retinopathy affects the individual between 20-50 years, which is the working population therefore it is important for us to examine them. For the rural setup, there is another alternative which is a very portable kind of device or even devices which are based on mobile phone apps with attachment to AI. So you just require to click pictures which can be done by ASHA workers or peripheral workers and they are pretty reliable pictures. These pictures can be analyzed at the tertiary care centre. In fact, pre-covid, when we were doing the rural program, that time we picked up several pictures of people in the rural sector and analyzed them. If we found anybody whose eye is affected, we would ask the ASHA workers to go next time and tell them to go and get it checked at the local clinic and get it treated.

4. What are the common eye complications you come across with uncontrolled diabetes?

Chronic hyperglycemia can cause complications in every part of the eye. You can get boils or furuncles (stye) in the eyelid. One can get multiple styes which are non-healing or migrating if the blood sugars are not controlled. One can get an infection of the surface of the eye called ulcers. You can also get cataracts if your sugars are not under control. In case of cataracts, uncontrolled blood glucose levels can cause cataracts with hyperglycemia, one cannot go in for surgery as it can further complicate the surgery. Cataracts can further progress with uncontrolled sugars. Chronic hyperglycemia can affect the retina of the eye. The eye functions exactly like a camera. Whatever we are viewing, gets focused through a lens inside the eye



onto the back of the eye called the retina. The retina is full of blood vessels and that is the most sensitive film of the eye. High blood sugar levels can cause the blood vessels inside the retina to get clogged up, it can start leaking and it can get permanently damaged. Uncontrolled diabetes can also lead to fluctuating glass powers which is a common occurrence. A lot of people in our clinic come thinking they have cataracts and so their vision is not clear, but ultimately, we see that they don't have a cataract, their lens is clear. It is just because of their uncontrolled sugars, the lens becomes more round and the glass power completely changes and whatever glass power you give them does not work. Now when these people's sugar comes under control their glass power comes to a normal level and these patients are more than happy that they have regained their vision and there is no retinopathy.

5. Can you give your advice on the prerequisites to set up a diabetes eye clinic?

If you want to set up a diabetes eye clinic, one should have a vision to bring about awareness to this society. The current working population has a lot of people who are sedentary and at some point of time may develop diabetes and need awareness about this condition and its complications.

- So firstly they should be made aware of the importance of eye check-ups and the diabetes eye clinic should have regular ways of sending out intimation to them that they are due for a check-up. Awareness is important, you should keep them aware that they have a condition called diabetes which requires an eye check-up.
- Second is accessibility. They should be able to come in at least once a year if they do not have retinopathy and if they have retinopathy, as advised by a physician for a follow-up visit.
- There should be a mechanism to send out reminders and messages to the patients from time to time
- The clinic must have facilities for vision testing. There can be portable devices wherein you can go to the person and at least take a fundus picture if the person is not able to come to your clinic. You can at least take a timely picture of their retina and the rest of the check-up can be done at the later visit.
- The clinic must also have a facility for slit lamp examination for a detailed check-up. The slit lamp examination is nothing but a device that gives a magnified view of the front of the eye.
- There is a concept of eye pressure as well. Just like blood pressure inside the body, there is eye pressure inside the eye. So that check-ups can also be done in individual clinics.

The eye is truly a window to the person's health because that is the only area where you can see the blood vessels directly and you can also grab pictures of it. Newer portable cameras can help one reach out to people beyond the clinic and expand the practice in the community as well.



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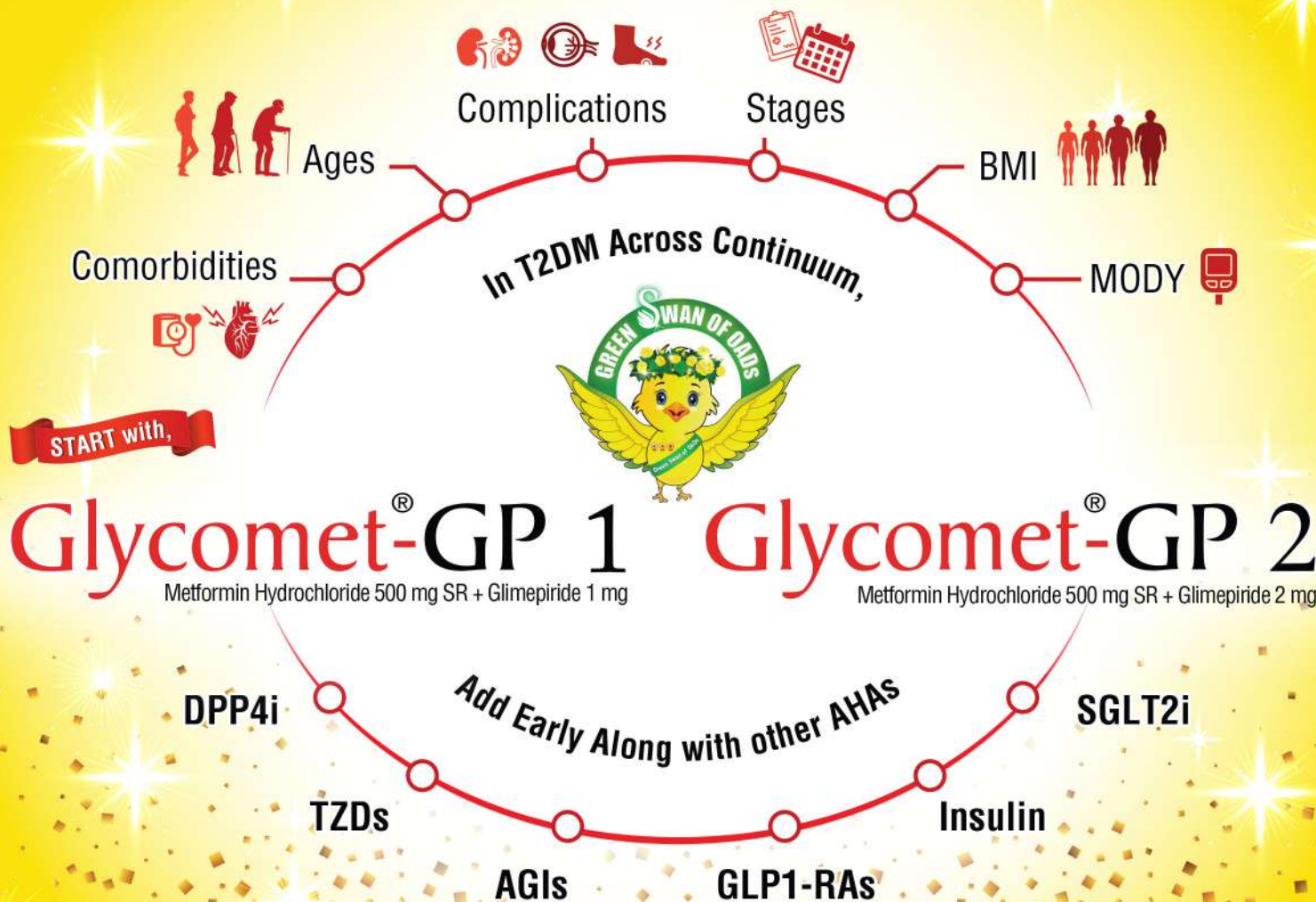


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* Data on File

1. Asian Journal of Diabetology, Vol. 23, No. 2, April-June 2022; YALAMANCHI SADASIYA RAO et al, 2. Asian Journal of Diabetology, Vol. 23, No. 2, April-June 2022; SAUMITRA RAY et al, 3. Cureus 2020; 12(9): e10.7759/cureus.1070
4. CMAR Data 5. Healthplix Data 6. Lim L-L, Lau ESH, Cheung JTK, et al. Real-world usage of sulphonylureas in Asian patients with type 2 diabetes using the Joint Asia Diabetes Evaluation (JADE) register. Diabetes Obes Metab. 2022;1-14. Doi:10. 1111/dom.14865;

Prescribing Information

Information: Metformin hydrochloride (as prolonged release) and glimepiride tablets. Glycomet-GP 0.5/Glycomet-GP 0.5 Forte/ Glycomet-GP 1/ Glycomet-GP 1/850/ Glycomet-GP 2/ Glycomet-GP 2/850/ Glycomet-GP 3/ Glycomet-GP 3/850/ Glycomet-GP 4/ Glycomet-GP 4/850/ Glycomet-GP 1 Forte/ Glycomet-GP 2 Forte/ Glycomet-GP 3 Forte/ Glycomet-GP 4 Forte Abridged Prescribing Information **Composition:** Glycomet GP 0.5mg: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500mg and glimepiride IP 0.5mg. • Glycomet GP 0.5 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 0.5mg. • Glycomet GP 1: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 1 mg. • Glycomet GP 1/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 1 mg. • Glycomet GP 2: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 2 mg. • Glycomet GP 2/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 2 mg. • Glycomet GP 3: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 3 mg. • Glycomet GP 3/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 3 mg. • Glycomet GP 4: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 500 mg and glimepiride IP 4 mg. • Glycomet GP 4/850: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 850 mg and glimepiride IP 4 mg. • Glycomet GP 1 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 1mg. • Glycomet GP 2 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 2mg. • Glycomet GP 3 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 3mg. • Glycomet GP 4 Forte: Each uncoated tablet contains metformin hydrochloride IP (as prolonged release form) 1000mg and glimepiride IP 4mg. **Indication:** For the management of patients with type 2 diabetes mellitus when diet, exercise and single agent (glimepiride or metformin alone) do not result in adequate glycaemic control. **Dosage and Administration:** The recommended dose is one tablet daily during breakfast or the first main meal. Each tablet contains a fixed dose of glimepiride and Metformin Hydrochloride. The highest recommended dose per day should be 8 mg of glimepiride and 2000mg of metformin. Due to prolonged release formulation, the tablet must be swallowed whole and not crushed or chewed. **Adverse Reactions:** For Glimepiride: hypoglycaemia may occur, which may sometimes be prolonged. Occasionally, gastrointestinal (GI) symptoms such as nausea, vomiting, sensations of pressure or fullness in the epigastrium, abdominal pain and diarrhea may occur. Hepatitis, elevation of liver enzymes, cholestasis and jaundice may occur; allergic reactions or pseudo allergic reactions may occur occasionally. For Metformin: GI symptoms such as nausea, vomiting, diarrhea, abdominal pain, and loss of appetite are common during initiation of therapy and may resolve spontaneously in most cases. Metallic taste, mild erythema, decrease in Vit B12 absorption, very rarely lactic acidosis, Hemolytic anemia, Reduction of thyrotropin level in patients with hypothyroidism, Hypomagnesaemia in the context of diarrhea, Encephalopathy, Photosensitivity, hepatobiliary disorders. **Warnings and Precautions:** For Glimepiride: Patient should be advised to report promptly exceptional stress situations (e.g., trauma, surgery, febrile infections), blood glucose regulation may deteriorate, and a temporary change to insulin may be necessary to maintain good metabolic control. Metformin Hydrochloride may lead to Lactic acidosis; in such cases metformin should be temporarily discontinued and contact with a healthcare professional is recommended. Sulfonylureas have an increased risk of hypoglycaemia. Long-term treatment with metformin may lead to peripheral neuropathy because of decrease in vitamin B12 serum levels. Monitoring of the vitamin B12 level is recommended. Overweight patients should continue their energy-restricted diet, usual laboratory tests for diabetes monitoring should be performed regularly. **Contraindications:** Hypersensitivity to the active substance of glimepiride & Metformin or to any of the excipients listed. Any type of acute metabolic acidosis (such as lactic acidosis, diabetic ketoacidosis, diabetic pre-coma). Severe renal failure (GFR<30ml/min). In pregnant women. In lactating women. Acute conditions with the potential to alter renal function (dehydration, severe infection, shock, intravascular administration of iodinated contrast agents); acute or chronic disease which may cause tissue hypoxia (cardiac or respiratory failure, recent myocardial infarction, shock); hepatic insufficiency; acute alcohol intoxication; alcoholism. **Use in a special population:** Pregnant Women: Due to a lack of human data, drugs should not be used during pregnancy. Lactating Women: It should not be used during breastfeeding. Pediatric Patients: The safety and efficacy of drugs has not yet been established. Renal impairment: A GFR should be assessed before initiation of treatment with metformin containing products and at least annually thereafter. In patients at increased risk of further progression of renal impairment and in the elderly, renal function should be assessed more frequently, e.g. every 3-6 months.

Additional information is available on request.

Last updated: March 13, 2023

*In case of any adverse events, kindly contact: pv@usv.in

For the use of registered medical practitioner, hospital or laboratory.*



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