



CAPE NEWS

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Sirisha Kusuma

Contents

1. From the Editor's Desk
2. **Message** from the ISPAE Office bearers
3. Welcome to new ISPAE members
4. Announcement - ISPAE Observership Awards
5. **Special Article: The COVID-19 Pandemic: Window of Opportunity in the Battle Against Childhood Obesity.** Priti Phatale, Hemant Phatale
6. **Excerpts from recent guidelines: A Practical Approach to the Self-Management of Diabetes as an Inpatient for Children and Young People Under 18 years- ACDC Guideline Development Group.** Compiled by Nikhil Lohiya
7. **Mini-Review: Some Pearls from ISPAD 2020 Virtual Conference: October 2020.** Anju Virmani
8. **Pedendoscan.** Compiled by Nikhil Lohiya
9. **Case Report: Sino-orbital mucormycosis in type 1 diabetes mellitus: Importance of early intervention and strict glycemic control.** Avani Hegde, Tanveer Nawab, Vani HN, Raghupathy P.
10. **Activities/ Events** organised by ISPAE members
11. **Publications** by ISPAE members
12. **Upcoming Endocrine Conferences**

From the Editor's Desk

Dear Friends,

We wish you all a happy, healthy, and prosperous new year 2021!

The end of 2-year tenure for ISPAE executive also means curtains down for the CAPE NEWS team! It has been an absolute pleasure to work for ISPAE over the last two years, as part of CAPE NEWS team. We tried our best to provide you with as much useful content possible within the ambit of the ISPAE newsletter.

I thank all the CAPE NEWS team members, especially Dr Anju Virmani, for the guidance and help extended throughout!

I also thank ISPAE office bearers and all advisers for providing valuable inputs and encouragement. Active contribution from all the members of ISPAE has been our constant motivation to work harder to bring out more academic content in the newsletter.

I wish all the best to the incumbent editorial team of the CAPE NEWS!

Warm regards

Rakesh Kumar, Editor CAPE NEWS & Team

Message from the ISPAE Office Bearers (2019-2020)

Dear Friends,

A warm welcome to the incoming team led by Dr Shaila, who I am sure will lead ISPAE to further heights and recognition.

I thank all of you for giving me this opportunity of being the President of such dynamic Society. It was an exhilarating experience, and it was a pleasure working with all of you. I was ably guided by all the senior advisors and supported in all the endeavours by Ahila Ayyavoo, our Secretary-cum-Treasurer, and Leena Priyambada, our Joint Secretary. Members of the Executive Council, Editorial board and Web team also worked hard.

Wishing you all a happy and healthy new year.

Preeti Dabadghao, Ahila Ayyavoo, Leena Priyambada & Executive Committee.

Message from incoming ISPAE Office Bearers (2021-2022)

Dear Friends,

Season's greetings and wishing you all an incredibly happy and prosperous new year 2021!

At the outset, we humbly thank all of you for giving us an opportunity to serve our Society and build on the years of hard work done by our esteemed seniors and founders of the Society. The new team represents a wide geographical part of India and is full of energy and enthusiasm to work for the furtherance of the Society. We take this opportunity to heartily congratulate our predecessors for their excellent job, including a phenomenally successful PDU-2020, particularly in these difficult times of the pandemic.

The pandemic has provided us with new insights into the field of education and has brought the world closer (virtually in to our drawing rooms) as has been seen in the recently concluded Pediatric Diabetes Update 2020! In the coming years we will witness more academic activities being done under the banner of ISPAE using digital platforms. This will be of immense benefit to post graduate pediatric students, pediatric endocrine trainees, practicing pediatricians and pediatric endocrinologists. In addition, this is also the year for us to have our biennial meeting ISPAE 2021. We will soon communicate to you in this regard but would like to reassure you that the calendar year would not go without having the meeting!

Improvement in the field of pediatric endocrinology in India is a work in continuum and a change of office bearers is a part of that continuity. Some important initiatives have been started by the previous teams like the Type 1 Diabetes Initiative, and the Initiative for promoting Newborn Screening for Congenital Hypothyroidism with support from GPED. We will make our best efforts to ensure that these initiatives reach the desired conclusion, and continue the good work done by our seniors. In addition, you will be seeing new initiatives in the field of education, research, and community work. We plan to have monthly and quarterly virtual academic meetings, and regional meetings, apart from existing activities. We wish to start ISPAE's official Journal over the next one year. We also intend to start structured and uniform ISPAE training fellowships on the lines of other IAP Fellowships.

We seek an active role from all the members of the esteemed General Body of ISPAE, in sharing ideas, being a part of various initiatives, helping ISPAE to add new members, and increase its footprint across India and outside. We would also request you to actively report all your charitable and educational activities in our newsletter CAPE NEWS and contribute to the content of ISPAE website.

Let us all work together to give more strength and recognition to our Society!

With warm regards,

Shaila Bhattacharyya, Ganesh Jevalikar, Rakesh Kumar
On behalf of ISPAE TEAM 2021-22

Welcome to new ISPAE members

Nelson Jesuraj	Consultant, Pediatric & Adolescent care, Mundakayam Medical Trust Hospital
Sarthak Das	Assistant Professor, Pediatrics, AIIMS, Mangalgi, Guntur, AP
Atul Gupta	DM, Senior Resident, Pediatric Endocrinology unit, PGIMER, Chandigarh
Sumeet Arora	Associate Consultant, Pediatric Endocrinology, Artemis Hospital, Gurugram
Kamlesh Agarwal	Assistant Professor, SMS Medical College, Jaipur
Swapan Banerjee	Deptt. of Nutrition, Seacom Skills University, Kolkata, West Bengal
Anshika Singh	Fellow Pediatric Endocrinology, Manipal Hospital, Bengaluru

Announcement

ISPAE Observership Awards 2020-21

Application Deadline: 31st January 2021.

ISPAE invites applications for the ISPAE Observership Award 2020-21. The objective of the Award is to inculcate interest and disseminate knowledge in pediatric endocrinology among pediatricians and physicians with interest in pediatric endocrinology.

We understand that in view of the COVID pandemic it may be difficult to make plans, hence the observership completion dates have been extended to March 2022.

The process and procedures are as follows:

1. The Award is meant as a reimbursement to partially defray the expenses of the selected candidate in spending 1-3 months with a Pediatric Endocrinology Center or an Endocrinology Center with facilities for training in pediatric endocrinology.
2. The training center should have at least either (1) two pediatric endocrinologists, or (2) one pediatric endocrinologist and one adult endocrinologist interested in pediatric endocrinology, as faculty/trainers. The centers which have on-going training and/ or fellowship programs would be preferred. For more information, please visit our website www.ispae.org.in.
3. The applicant must communicate with the training center/ mentor in advance. Documentation of acceptance by the center/ mentor/ institution concerned should be submitted along with the application. The observership should occur in the Financial Year 2021-22, and should be completed no later than March 31st 2022.
4. Travel Awards will be granted to 2 persons this year if applicants are found suitable.

5. The Award consists of an amount of Rs 25,000/-, to be given after the candidate successfully completes his/ her tenure, and submits the course report duly signed by the mentor, which meets the approval of the ISPAE Executive Council.
6. The applicant must be a member of ISPAE. Those who are not, would have to become members immediately upon selection; else the offer will automatically go to the next person on the short list. Please check the details regarding ISPAE membership at our website www.ispae.org.in.
7. Preference will be given to young faculty members, who are in a position to start pediatric endocrine clinics in their hospital or are already running a clinic but have not had the benefit of a formal training program. However, the award is not limited to this group. Those who have done endocrinology or pediatric endocrinology training earlier and wish to do a refresher course in pediatric endocrinology may also apply.
8. The upper age limit is 45 years.
9. The application must be accompanied by a recommendation note from one active ISPAE member.
10. It is desirable that the applicant plans for and submits a brief synopsis of a research plan that he/she would like to do during the period.
11. Interested candidates must submit their applications by 31st January 2021, in the prescribed application form. This application must be forwarded by the Head of the Department, if the applicant is a student or trainee, or working in a government institution. The last date
12. Completed applications should be sent by email to Dr Ganesh Jevalikar (ISPAE Secretary 2021-22) and Dr Rakesh Kumar (ISPAE Joint Secretary 2021-22) at gjevalikar@gmail.com and drrakesh.pgi@gmail.com respectively.

Special Article

The COVID-19 Pandemic: Window of opportunity in the battle against childhood obesity

Priti Phatale & Hemant Phatale, Samrat Endocrine Institute, Aurangabad.

Correspondence: Priti Phatale, DCH, Childhood & Adolescent Obesity Specialist, +919823231791, prit.hemant@gmail.com.

We clinicians are tuned up to tackle changing health challenges which come up from time to time in the care of **Generation next, the strong pillars of our nation.** Recently, we have demonstrated our competence in tackling the COVID-19 pandemic. However, another pandemic of Non-Communicable Diseases (NCDs) is knocking at our door. Childhood obesity is now well identified as a critical modifiable risk factor which contributes significantly to the rising burden of NCDs.

Childhood obesity is “one of the most serious public health challenges of the 21st century.”¹ It is already a global phenomenon, affecting several low- and middle-income countries, particularly the urban populations, with a rapidly rising prevalence. Epidemiological evidence suggests that the number of obese children and adolescents (age group 5-19 years) globally increased by ten times in last 40 years. From these trends, a recent paper from the Imperial College, London, and WHO, postulates that by the year 2022, more children and adolescents will be obese than moderately or severely underweight.² The landmark National Health and Nutrition Examination Survey (NHANES) demonstrates that the prevalence of obesity is increasing across the spectrum of pediatric age groups, across genders and ethnicities. Several factors are considered responsible for this tsunami, including genetics, environment, metabolism, lifestyle, and eating habits. More than 90% cases are idiopathic, due to combinations of these factors, with less than 10% due to hormonal or genetic aberrations.

India is undergoing a rapid socio-economic, demographic, and nutritional transition, and contributes significantly to these numbers, with close to 14.4 million obese children. China has the highest number in the world, with more than 15.3 million obese children. While the world migrates from nutritional insufficiency towards excess, metabolic disorders have started not only rising rapidly, but also occurring prematurely.

The Obesity Medicine Association provides a broad and comprehensive definition of obesity, as a chronic, relapsing, multi factorial, neurobehavioral disease. The increased body fat promotes adipose tissue dysfunction, translating into metabolic, biochemical, and psychosocial health consequences.³

Impact of One Pandemic on Another- The Bidirectional Impact

The COVID-19 pandemic has induced major lifestyle changes in the new normal – including stay-at-home, physical distancing, online school and classes. This resulted in disturbances in their familiar routines and social networks, physical activity and exposure to art and music which are stress relievers. Parents have been scared to send their children for outdoor

activities, exacerbating the situation of the children being engaged in substantial digital screen time for academics and leisure, as well as grazing – especially enjoying calorie dense food (purchased or prepared with online learning of recipes), with irregular eating patterns, including late night snacking and meals.⁴ One of the important reasons for increased BMI in young children is inadequate sleep, independent of other confounding variables.⁵ It is also well established that children with higher rates of screen time concomitantly consume more energy-dense snacks and beverages, and fewer fruits and vegetables. Screen time is hypothesized to affect food and beverage consumption through distracted eating, reduced feelings of satiety or fullness, and exposure to advertisements for junk food (calorically dense foods with excessive sugars and salt).⁴

Thus COVID-19 has impacted important lifestyle parameters, including decreased physical activity, increased screen time, unhealthy eating patterns, and poor sleep patterns. Beyond this, traumatic events in the lives of many families have added to the stress caused by the pandemic.⁶

Most parents are trying to help their children to tackle these stressful times. However, there may be high levels of parental stress due to job losses, home isolation, working from home, which makes mitigation of the stress difficult.⁶ These disturbances in the social environment contribute to weight gain and obesity, more so during infancy and early childhood.⁷ The stigma of obesity induces yet more stress, a greater risk for depression,^{8,9} in response to which the children may eat more than normal weight peers, setting up a vicious cycle of weight gain and metabolic disturbances.¹¹

The worrisome reasons about the rising trends of childhood obesity

There are several health consequences of childhood and adolescent obesity, both short term and long term. These include insulin resistance and hyperinsulinism, type 2 diabetes, hypercholesterolemia, hypertriglyceridemia, reduced levels of HDL-cholesterol, hypertension, fatty liver, accelerated growth and bone maturation, ovarian hyperandrogenism and gynecomastia, cholecystitis, pancreatitis, pseudotumor cerebri, sleep apnea and sleep-disordered breathing, and several orthopedic disorders, including genu valgum, slipped capital femoral epiphysis, tibia vara and Blount's disease. Other long-term challenges are social isolation, peer problems, and lower self-esteem.

At present, the evidence for the long-term consequences of obesity during infancy and early childhood on subsequent health is still evolving. The proportion of children with obesity who become obese adults increases with increased age at onset of obesity. Thus, 26-41% of obese pre-schoolers are obese adults, compared to 42-63% of school-aged children, and 66-78% of youth aged 18y.¹¹ Moreover, the higher the degree of obesity during childhood, the higher the risk of adult obesity.

It is the time to take action to reduce the negative impact of both pandemics. The interventions required are extensive, but not difficult. We clinicians must strongly advocate changes in lifestyle. Dietary modifications include ensuring a balanced nutritive diet for all family

members; including vegetables, salads and fruits; drinking sufficient water; and avoiding foods high in fat, salt and sugar.

Children should be supported effectively in their learning endeavors, without stress. They should be motivated to replace nonacademic screen time with physical activity as per their choice and available resources like skipping, jogging, running, swimming, dance, Zumba, cycling, especially among siblings. They can be motivated to be creative - in art, craft or any other subject of their choice, which they will enjoy and thus boost up their confidence.

The parents and other family elders should enjoy togetherness with children, in terms of physical activity (e.g. yoga or any physical activity of children's choice) and jointly preparing tasty yet healthy dishes. Perhaps, in today's era of WIFI, enjoying real **WIFI** means * W-without * I- internet * F- family * I – interaction!

Schools should support the children facing problems in online classes and help relieve their anxiety. They can teach children how to build up good physical and mental health, by incorporating extracurricular teaching like art, music, yoga in their academic curriculum.

Health providers and professionals should organize awareness campaigns to reduce the stress and anxiety of the community regarding COVID, as well as warning about the upcoming pandemic of childhood obesity, and emphasizing long-term benefits of healthy lifestyle to tackle the dual pandemic. They should ensure timely help for any health concerns.

NGOs should come forward to help underserved families within respect to food, shelter, clothes, educational aids like smart phone and electronic tabs.

Let Us Join Hands Together to Carve the Future of Nation by Shaping Generation Next!

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Excerpts from Recent Guidelines

A Practical Approach to the Self-Management of Diabetes as an Inpatient for Children and Young People Under 18 years - ACDC Guideline Development Group - A Timmis, SM Ng, A Soni, E Williams, JC Agwu, J Drew, C Moudiotis, N Wright, F Regan

Compiled by: Dr Nikhil Lohiya, Consultant Pediatric Endocrinologist, Dr DY Patil Medical College, Hospital & Research Center, & Jupiter Hospital, Pune.

Recommendations

1. Parents and caregivers who are managing their child's diabetes in the community should be supported to continue to manage this in the hospital setting. Support may be needed to help manage differences in blood glucose level and insulin requirements due to illness.
2. Children and young people who usually manage some or all of their self-management tasks should be supported to do so, as their clinical condition allows. Parents and caregivers, along with the diabetes team, can provide information regarding the patient's competence to self-manage.
3. A risk assessment should be undertaken on admission by the clinical team and documented in the clinical notes. This should be reviewed during the inpatient stay, as the ability to self-manage may change during the admission.
4. The diabetes specialist team should be involved if there is any disagreement between clinical staff and the patient or family's view of ability to self-manage or any issues with diabetes management due to illness.
5. Patients or family/ caregivers who can self-monitor blood glucose should continue and should make the results available to hospital staff.
6. Patients or family/ caregivers who can self-administer insulin should do so and this should be documented on the prescription chart.
7. Facilities should be available for the safe storage of insulin in the ward environment that is accessible to patients and their family /caregivers.
8. All children and young people with diabetes admitted to hospital should have a documented discussion and risk assessment of their and their family's ability to self-manage.
9. The risk assessment and any discussions should be documented in the clinical notes.
10. Reassessment should take place regularly throughout admissions and particularly if:
 - The patient becomes more unwell. They may no longer be able to self-manage. The family's ability to self-manage may be affected by emotional wellbeing and the differences in glycemetic control due to illness.
 - Following anaesthesia or while patient-controlled analgesia is in progress.
 - If their condition improves (they may become able to self-manage)
 - If a diabetes self-management incident occurs.

11. Staff should be aware of their responsibilities to provide safe and effective care. Wherever possible, patients and families should be involved in decisions about their clinical care. If there is doubt about a patient and family's ability to self-manage, the diabetes specialist team should be involved.
12. Elective admissions should be planned in conjunction with the patient and family and the diabetes specialist team in advance. This planning should include whether the patient and their family wish to self-manage; the circumstances when self-management may not be possible; the local process for administration of the self-management process if appropriate (eg self-agreement forms) and the circumstances in which the diabetes specialist team need to be involved.
13. If during self-management of diabetes, the clinical team identifies educational needs, then the patient and family should be referred to the diabetes specialist team.
14. The patient's own medications can be used for self-administration if the patient has consented to use of their own medications in hospital; the expiry date has not been passed; insulin pens/ vials/ cartridges have not been open for more than 4 weeks and insulin products have patient identification labels.
15. The Trust should provide safe, secure storage for insulin. Lack of suitable storage should not be a reason for not allowing self-administration.
16. Insulin should be prescribed as per local policy. The registered nurse should confirm that the patient or family have self-administered insulin and the time and dose taken. This should be documented on the prescription chart.
17. Disagreements about management should be discussed between the patient/ family, nursing and medical staff. If an agreement cannot be reached, then the diabetes specialist team should be involved.
18. All discrepancies or errors should be documented in the nursing and medical notes, including any action taken. If the patient or family makes an undisputed error in management, then the ability to self-manage should be reassessed. All drug errors should be reported using the usual incident reporting system.
19. Patients and families who are self-managing diabetes should test their own blood glucose using their own equipment wherever possible. Patients and families must agree to test regularly to allow clinical staff to assess the level of control. If there is a disagreement about the frequency of testing required, then the specialist diabetes team should be involved. Patients and families must make the results available to clinical staff and this must be recorded in the patient's records.
20. Hospitals that have quality-control policies that mandate the use of hospital provided glucose meters should develop policies and practice that support self-management including the supply of suitable glucose monitors readily accessible to the patient and their family.
21. The patient can use continuous glucose monitoring (CGM) or Flash Glucose Scanning (FGS) to monitor their interstitial glucose if the patient/ family and the clinical team agree this is appropriate.

22. If the patient becomes hypoglycemic (blood glucose below 3.9 mmol/L), treat as per inpatient hypoglycemia guideline. Involve the diabetes specialist team to review the patient's management.
23. If the patient becomes hyperglycemic (blood glucose level above 14 mmol/L) clinically assess the patient and check blood ketones. If the patient is well, he/she and their family should be supported to self-manage in conjunction with the clinical team. If they are unwell, inform medical staff promptly. Refer to local guidelines for hyperglycemia and sick day rules.
24. Patients should be encouraged to eat a normal diet, make their own food choices and adjust their insulin based on their intake. Patients do not need to follow a restricted diet and should not be stopped from choosing food from the "normal" menu. Hospitals must ensure that insulin can be taken prior to or with a meal. The carbohydrate content of meals should be available to patients, families and ward staff.
25. Patients using insulin pumps and their families undergo detailed training in their use by the diabetes specialist team. The patient and family should be supported to continue to use the pump if well enough to do so. If the patient is not able to self-manage independently then a competent parent or caregiver will need to always remain in hospital with them, or an alternative form of insulin treatment should be considered. The diabetes specialist team should advise on an alternative regime of subcutaneous insulin.
26. If the patient is unwell with hyperglycaemia then local hyperglycaemia or sick day rules policy (including replacing the insulin and re-siting the pod or cannula) should be followed. If the patient develops DKA or hyperglycaemia is not improving, then pump therapy should be discontinued.
27. All patients on insulin pump therapy should be reviewed by the diabetes specialist team during their admission.

ISPAD 2020

SOME PEARLS FROM ISPAD 2020 VIRTUAL CONFERENCE: OCTOBER 2020

Anju Virmani, Senior Consultant Endocrinologist, Max, Rainbow & Pentamed Hospitals, Delhi.

*Message from Prof Carine de Beaufort, President, ISPAD: ** We are pleased to announce that the whole scientific content, as well as the entire industry program, of the ISPAD 2020 Virtual Conference will be available at no cost on the ISPAD Resource Platform from January 1, 2021! 3 Plenaries, 11 scientific symposia, 2 Meet the Experts and JENIOUS sessions, more than 200 ePosters, and 10 industry satellite symposia and workshops await you. ** In the meantime, do not hesitate to visit the ISPAD Resource Platform to access free content from former ISPAD conferences as well as the brand-new Educational Webinar series, the last one being on “Glycemic Targets for Children with Diabetes: Setting, Assessing, and Promoting Use” moderated by Prof. Linda DiMeglio, faculty: Drs. Maartje de Wit, Martin de Bock, and Maria Redondo. ** We also highlight our Allan Drash Clinical Fellowship Awardees for 2020-2021.*

(Congratulations to winners of the Allan Drash fellowship from India: our own Editor, Rakesh Kumar!, also Peerzada Ovais Ahmad, Apoorva Gomber and Manisha Gupta!)

Catrina Limbert, Lisbon: Emphasized the ADA & CDC Advisory that people with diabetes (PwD) are not more susceptible to SARS-CoV2 infection than general population, if glycemic control is good. Children and youth (<18y) with diabetes are mostly getting mild or asymptomatic infections, rather than severe disease.

Highlighted a case report of a 26yo newly diagnosed woman who was put on CGM immediately, and thus a DKA admission was averted.

Covid has increased dynamic diabetes care. More PwD are adopting CGMS and sending this data to the diabetes care team. This greater involvement with digital diabetes care has resulted in increased autonomy of individuals and families and reduced the burden of diabetes routine care.

Quoted Italian data that T1Ds who were working from home, had better eating and sleep patterns, and increased time in range (TIR) from 54% to 65%.

Eda Cengiz, Yale: Diabetes technology was already reshaping diabetes management, reducing hypoglycemia, giving better night time control, decreasing post-meal excursions.

Better CGM systems, better pumps, fully automated closed loop systems instead of hybrid closed loop pumps, smart pens, smart innovative glucometers, nasal glucagon, telehealth, apps, are some of the innovations.

CGM is becoming standard of care in T1D care, altering definitions of glycemic control to TIR rather than A1c, and enabling better TIR.

With Covid, this technology proved to be an ally to outsmart diabetes. Contact with hospitals/labs to test A1c could be completely avoided by CGM + telemedicine. Adoption of technology rapidly increased because of Covid. Telehealth enabled device uploads, remote interpretation of data, and online diabetes care coaching.

Jill Weissberg-Benchell, Chicago: Rapid increase in use of CGM technology in last 5y. Usage increased in children <6y: from 4% to 51%; in children 6-12yo from 3% to 37%; in adolescents from 3% to 24%.

If used consistently, many psychosocial benefits: decreased anxiety, decreased depressive symptoms, decreased diabetes distress, increased independence, increased diabetes self-efficacy, improved quality of life.

Anita Swamy, Chicago: COMISAIR 3y data in 2019: A1c decreases with CGM regardless of insulin delivery method. Now, CGM has become essential, not optional, in all diabetes management.

Best time to start CGM is immediately at diagnosis. If not started at diagnosis, then offer when glucose control deteriorates. Aim to replace finger sticks.

Laya Ekhlaspour, Stanford: Protein and fat increase glucose excursions 3-5h after meals. They have an additive impact on this delayed postprandial glycemic rise. This affects glycemic control, so conservatively, an additional 15-20% more insulin dose is needed for high fat, high protein meals.

Protein has a protective effect on the development of hypoglycemia.

ISPAD Guidelines 2018 already emphasized this; ADA Guidelines now catching up: have yet more emphasis in 2021 ADA Guidelines.

Sinead Murphy, Dublin: Adolescents are not big children or miniature adults. They are different. This is a time of dramatic changes in brain maturation. The emotional brain, which controls reward seeking, hyperexcitability, and impulsivity, matures by age 14-16y. The prefrontal cortex, which controls judgement, decision making, and impulse control, continues to mature up to the mid-20s. So, there is a neurocognitive rationale for adolescent-specific lifestyle change programs.

Obesity is not a choice for most adolescents, given the current obesogenic environment and their primary need to fit in with their peers. So, they need comprehensive lifestyle management, with lot of support, and no blame. Poor psychosocial functioning is the main barrier to success in reducing adolescent obesity.

Lifestyle measures work best only if introduced pre-adolescence. Orlistat is effective as it causes socially unacceptable consequences after overeating.

Torsten Olbers, Linköping: Obesity interventions work only if started pre-adolescence. Orlistat is quite useless, as it is usually not taken. Liraglutide works in high doses (3 mg!), if it is taken.

Bariatric surgery reduces weight, insulin, BP, CRP i.e., inflammation. There is partial improvement in psychological issues, but it does not improve anxiety, depression, body image issues. Postop deficiencies and adverse events are seen in 20-66% patients.

Preeti Dabadghao, Lucknow: India has considerable burden to T1D: 1.7 lakh children, with paucity of pediatric endocrinologists, and even fewer allied health specialists. There is need for vigilance and better care as chronic complications are preventable.

Hypertension, dyslipidemia, and microvascular complications are much worse in adolescent T2D than T1D or adult T2D.

Paul Benitz-Aguirre, Sydney: Vascular complications start within 7-8y of diagnosis, seen in 5-10% patients. Age at diagnosis and puberty influence risk. Puberty is an accelerator of complications.

ABCDE of prevention of complications: A1c, BP, Cholesterol, Diet & Dip the urine stick, Exercise. Hypertension usually neglected. Even in the normotensive range, higher SBP & DBP values contribute to diabetes retinopathy onset. Early intensive glycemic control matters.

Phil Zeitler, Denver: Youth have more severe insulin resistance (IR) than equally obese adults. Their beta cells are hyperresponsive.

Their outcomes are poorer. Treatment to improve IR and reduce progressive loss of beta cell function must be more aggressive in youth.

Linda DiMeglio, Indiana: The higher the number of autoantibodies, the higher the chance of developing T1D. We can predict early enough to try to intervene at the stages of immune activation and immune response.

Teplizumab is a promising monoclonal and may get FDA approval. The immunomodulatory action of HCQS being studied.

However, as of 2020, neither monotherapies nor combination therapies have produced robust, durable effects: prevention, true remission and cure remain elusive.

T1D is a heterogenous disorder: in different persons, within same person, stages of destruction. Therapy must be tailored to stage/ substage of T1D development and disease activity, based on markers of response during trials.

Michael Haller, Gainesville: Single immunotherapy largely ineffective: combinations allow lower doses of “riskier” agents. One possibility is rituximab + abatacept.

David Beran, Geneva: There are huge challenges in access to diabetes care in different parts of the world, including financial, racial, geographical, other disparities.

Health care systems mainly located in urban areas; hospital based. Organization of care for follow up, referrals, management of co-morbidities and complications usually lacking. Human resources not always optimally used.

Prevention possible only with early diagnosis, improving care and constant monitoring, based on appropriate health care facilities close to the patient.

[ISPAD 2018 Guidelines already have a section on resource constrained settings in each section. The just announced ADA Standards 2021 have a new feature on “Financial Hardship in Diabetes”.]

Anju Virmani, Delhi: T1D is not rare in developing countries: Nigeria, rest of Africa, Cambodia, rest of South east Asia: death before diagnosis and soon after diagnosis common. Numbers much less than T2D, so low political priority.

Even with small percentages, the numbers are large, the costs of care are high, and increase further if poor care because more complications.

Prices of insulins and glucostrips have come down but treating teams must be sensitive to financial aspects and offer care appropriate to family resources.

There is need for thermochromic vial monitors (used in oral polio vaccines) to insulin and other biologics.

SMBG and basal-bolus regimens are costly, but not testing and 2 dose regimens are even more costly. SGPGI data in 2004 showed 22% retinopathy, 18% nephropathy, 7% mortality, while same center data in 2019, with 97% patients on MDI and regular SMBG showed 3.6% retinopathy, 3% nephropathy, and 1% mortality.

Dream Team managing a Toddler: Moderator: Helen Phelan (Australia), Vincent McDarby (Ireland), Laurie Higgins (USA), Alanna Landry (Canada), Anju Virmani (India): Toddlers habits can be changed within 3-4 days.

Fussy eating driven largely by parental anxiety. In T1D, also by fear of hypoglycemia. Remove fear of hypoglycemia and allow parents to take back control of mealtimes. The parents decide when to eat, what to eat; the child decided how much to eat. No between meal food.

Make mealtimes regular timings, relaxed and enjoyable, no coaxing to eat, not more than 20 minutes. Be a good role model, have family style eating, schedule occasional treats.

Younger children need larger bolus doses: even up to 60-80% of total daily dose. The 500/TDD is not useful for toddlers: could be 350-250/TDD.

Insulin bolus should be given before food: the dose can be split if necessary.

CGMS with alarms, and pump therapy are ideal for T1Ds below age 5-7y. Hypos matter because developing brain.

Small body size, skin delicate, so sites can be a problem, skin care is important.

Intensive support to parents, creche, school important.

Pedendoscan

Compiled by: Dr Nikhil Lohiya, Consultant Pediatric Endocrinologist, Dr DY Patil Medical College, Hospital & Research Center, & Jupiter Hospital, Pune

Klein KO, Freire A, Gryngarten MG, Kletter GB, Benson M, Miller BS, Dajani TS, Eugster EA, Mauras N. Phase 3 Trial of a Small-volume Subcutaneous 6-Month Duration Leuprolide Acetate Treatment for Central Precocious Puberty. The Journal of Clinical Endocrinology & Metabolism. 2020 Oct;105(10):e3660-71.

Gonadotropin releasing hormone agonists (GnRHa) are standard of care for central precocious puberty (CPP). A 6-month 45 mg subcutaneous injection of leuprolide acetate has recently been approved by FDA. This was a phase 3 multicenter, open-label, single-arm study done at 25 sites in 3 countries to determine the efficacy, pharmacokinetics and safety of this preparation. The study drug was given to 64 GnRHa naive children with CPP (age: 7.5 ± 0.1 years): 59 completed the study. They received 2 doses (0.375 mL) at 0 and 24 weeks, and were followed up for 48 weeks. The outcome measured was the percentage of children with serum luteinizing hormone (LH) <4 IU/L 30 minutes following GnRHa stimulation at week 24: this was achieved in 54/62 (87%) children. At week 48, 49/56 (88%) girls and 1/2 boys maintained peak LH <4 IU/L. The mean growth velocity decreased from 8.9 cm/year at week 4 to 6.0 cm/year at week 48. The mean bone age advancement beyond chronological age was 3 years at screening and 2.7 years at week 48. Breast pubertal stage regressed or was stable in 97% of girls and external genitalia development regressed in both boys. Adverse events were mild and did not cause treatment discontinuation. The authors concluded that the preparation: small volume, 45 mg subcutaneous leuprolide acetate, administered at a 6-month interval, effectively suppressed pubertal hormones and stopped or caused regression of pubertal progression, and is thus a new, effective and well-tolerated therapy for children with CPP.

The study seems to give detailed information on the newly approved depot preparation. The safety profile is good. The gonadotropin suppression was reasonable. One of the reasons for which the drug was designed was to reduce psychosocial disturbance, an issue not addressed in this study. There were only 2 boys in the study, which is a limitation.

Arora S, Khoury J, Trout AT, Chuang J. Improving Malignancy Prediction in AUS/FLUS Pediatric Thyroid Nodules with the Aid of Ultrasound. Hormone Research in Paediatrics. 2020;93(4):239-44.

The objectives of the study were to correlate a Bethesda III cytology with histologic and clinical outcomes to determine the relevance of the ATA recommendations, and to evaluate whether Thyroid Imaging Reporting and Data System (TI-RADS) scoring could identify Bethesda III nodules at a lower risk of malignancy. It was a retrospective chart review of patients who had undergone thyroid nodule FNA from 2008 to 2018. Malignancy rates were determined for each Bethesda category. The reference standard was histopathology or 2-year follow-up of imaging outcomes for non-operative cases. Ultrasound exams of Bethesda III

nodules were reviewed and TI-RADS scores assigned. A total of 143 FNA samples from 128 patients were identified. The mean age was 14.9 years (range 7–22). Twenty-two (15%) of the FNA samples were Bethesda III; the malignancy rate was 38%. A TI-RADS score was assigned in 20 of the 22 Bethesda III nodules. ROC analysis found an optimal cut-off for malignancy prediction of ≥ 7 points (risk category TR5). The negative predictive value was 85.7% (95% CI 35.9–99.6) and the positive predictive value was 83.3% (95% CI 57.2–98.2). The authors concluded that although at baseline, thyroid nodules with a Bethesda III classification carry a moderate risk of malignancy in the pediatric population, TI-RADS scoring can identify nodules with a lower risk within this group. If validated by larger studies, this can inform decision making and reduce unneeded surgery.

Pediatric thyroid nodules need a careful approach; clinician are often in a dilemma about how to manage them. The TI-RADS Scoring is a non-invasive method which can be helpful in deciding the management plan. The limitations of the study are the availability of a low number of FNA and ultrasounds for analysis, and its retrospective nature. A similar prospective study with a larger sample size would help throw more light on this problem.

Falzone N, Harrington J. Clinical Predictors of Transient versus Persistent Neonatal Hyperinsulinism. *Hormone Research in Paediatrics*. 2020;93(5):297-303.

The aims of this study were to assess the ability to distinguish transient from persistent HI based on clinical and biochemical features at presentation, and to evaluate differences in hospital outcomes. It was a retrospective review of 79 infants with HI admitted to the Hospital for Sick Children, Toronto, from 2012 to 2017. Patients were classified into 3 groups: transient HI, and the 2 persistent forms, diazoxide responsive and diazoxide unresponsive (DU). They found that infants with birth weight (BW) >90 th percentile had an 8-fold increased risk of having a persistent form of HI (OR 8.8, 95% CI 2.5–30) and a 21-fold increased risk of having a DU form of HI (OR 21.1, 95% CI 4.9–91.8). The majority of children with transient HI and BW >90 th percentile were born to mothers with gestational diabetes (GDM). There were no other useful clinical or biochemical presenting features that differentiated the groups. There were significant differences in outcome measures, with the DU children more likely to require gastrostomy tube insertion and have an extended length of hospital admission. The authors concluded that higher BW in the absence of maternal GDM is highly associated with a persistent form of HI. Given the marked difference in clinical outcomes between groups, expedited genetic testing should be considered in infants with this presentation to inform clinical management.

The study highlights the important aspects of prolonged hospital stay, feeding issues and episodic insulin secretion - hence the critical sample may not always reflect hyperinsulinism. It is particularly important as it can help in anticipating the possibility of transient or persistent hyperinsulinism. The limitations are its retrospective nature, the absence of c-peptide measurements, the absence of genetic analysis in some children, and the variations in the protocols of treatment from clinician to clinician. Also, being an analysis of patients in a referral center and genetic testing was not done in all children, the conclusions drawn may not be applicable universally.

Case Report

Sino-orbital mucormycosis in type 1 diabetes mellitus: Importance of early intervention and strict glyceemic control

Avani Hegde, Tanveer Nawab, Vani HN, Raghupathy P. Division of Pediatric and Adolescent Endocrinology, Indira Gandhi Institute of Child Health, Bangalore. Correspondence: Dr Vani HN, +91 95913 45501, drvanihn1@gmail.com.

Introduction:

Mucormycosis is a potentially highly lethal fungal infection. It is a rare, aggressive disease with extensive local angio-invasion, caused by fungi belonging to the order *Mucorales*. These fungi live in soil and other organic debris. They sporulate quickly and abundantly. Infection is usually caused by inhalation of the sporangiospores (1). It is more common in immunocompromised patients and is associated with high morbidity and mortality. In India, uncontrolled diabetes mellitus is the most common risk factor (2). Sino-orbital variant of mucormycosis is the most common type in patients with diabetes (3). It takes a fulminant course in a short time and hence early diagnosis and prompt treatment is crucial to limit morbidity.

We describe a case of sino-orbital mucormycosis in a child with poorly controlled type 1 diabetes mellitus (T1DM) and highlight the importance of adherence to treatment for good glyceemic control in children and adolescents.

Case report:

A 12-year-old boy presented to our hospital with a swelling around the left eye of 3 days duration, swelling over the left half of his face and nasal crusting. He was diagnosed with T1DM at age 8 years and was on treatment at another hospital. He was highly irregular and non-compliant in his care of diabetes.

On examination, he had left peri-orbital swelling and cellulitis over the left cheek. There was a large ulcer on the left side of the palate, with blackish discoloration (Figure 1). Initial investigation results were: hemoglobin 12.5g/dl, total leucocyte count 15,800/ μ L with 85% neutrophils, random blood sugar 524mg/dl, glycated hemoglobin (HbA1c) 16.9%, venous blood gases: pH 7.30, HCO₃ 14mEq/L, pCO₂ 28mmHg, urine ketones 2+. Computed tomography (CT) scan of the brain, orbit and paranasal sinuses done on the day of hospitalisation revealed soft tissue thickness in the left maxillary sinus with extension to the left orbital apex. There was no intracranial extension (Figure 2).

Based on the clinical history, examination and radiological findings, a probable diagnosis of invasive sinusitis was made. He was treated with amphotericin B, meropenem and metronidazole. The mild diabetic ketoacidosis was managed as per the International Society for Pediatric and Adolescent Diabetes guidelines. His blood sugars were monitored and isophane and regular insulin doses titrated in a basal bolus regimen to maintain euglycemia. Over the next few days, he developed diminution of vision in his left eye and complete ipsilateral ophthalmoplegia. Surgical debridement was done by the surgical team of ophthalmologist, otorhinolaryngologist and oromaxillofacial surgeons, on the eleventh day of hospitalization. Left maxillectomy, left ethmoidectomy and left orbital exenteration was done.

Microbiological evaluation of the material removed from the palate, nose and eye showed aseptate ribbon-like broad hyphae with branching at right angles. Abundant growth of *Rhizopus arrhizus* sp. was obtained on Sabouraud dextrose agar culture.

A diagnosis of sino-orbital mucormycosis was made and conventional amphotericin B (1mg/kg/day) given intravenously for 21 days. The patient and his parents were provided detailed diabetes self-management education. He recovered well. He underwent cosmetic surgical reconstruction and corrective surgery 14 months later and an artificial eyeball was placed on the left side (Figure 3). He continues to be under regular follow up at our clinic. He has not had any further major infections. However, despite repeated warnings, he continues to have poor diabetes control. He is now 18 years old and his average HbA1c over last one year is 12%.

Discussion:

Mucormycosis is an opportunistic life-threatening fungal infection that can lead to significant morbidity and mortality in an immunocompromised host. It is characterized by its tendency for rapid vascular invasion leading to vascular thrombosis and tissue necrosis (4). It initially causes localized infections, but rapidly progresses invasively. It is predominantly seen in patients with poorly controlled diabetes mellitus.

A high index of clinical suspicion (in the setting of a predisposing risk factor present in our patient) led to an early diagnosis and the right treatment. The mainstay of management is a combination of antifungal drugs with antibiotics, early surgical debridement of all devitalized tissue, and control of the hyperglycemic state (5). Treatment with antifungals alone is ineffective due to poor concentration in the affected tissues because of the angio-invasive nature of the infection leading to thrombosis, occlusion and infarcts. Early surgical debridement of devitalized tissue prevents extension of infection to the surrounding areas (6).

This report highlights the importance of meticulous glycemic control in preventing invasive fungal infections.

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Figure 1: Clinical picture of the patient showing large punched out ulcer over left side of palate with white and black discoloration



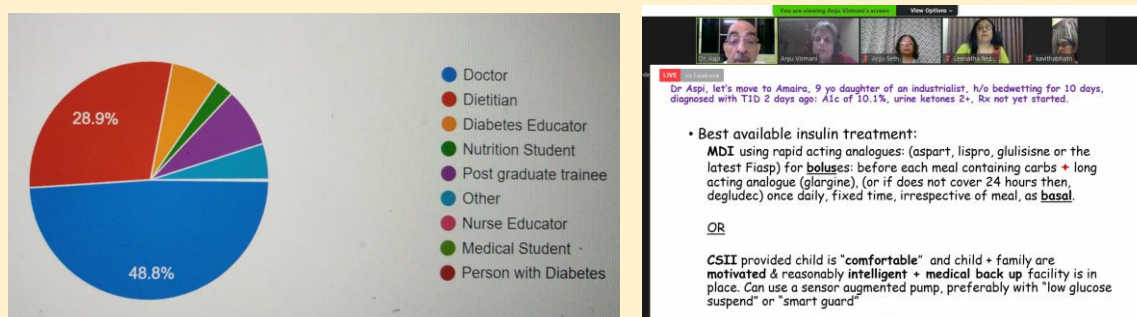
Figure 2: CT scan of paranasal sinuses showing soft tissue thickness in the left maxillary sinus.

Figure 3: Patient profile after reconstructive and corrective surgery.

Events/Activities organised by ISPAE members

PEDIATRIC DIABETES UPDATE 2020 UNDER THE AEGIS OF ISPAE, ISPAD AND ADE
Ganesh Jevalikar, Principal Consultant Pediatric Endocrinologist, Max Super Speciality Hospitals, Delhi/ Gurgaon

In view of the cancellation of the in-person ISPAE-ISPAD 2020 meeting planned to be held at Chandigarh, due to the SARS-CoV-2 pandemic, an online Pediatric Diabetes Update 2020 (PDU 2020) was organized under the aegis of the Indian Society for Pediatric and Adolescent Endocrinology (ISPAE), the International Society for Pediatric and Adolescent Diabetes (ISPAD) and the Association of Diabetes Educators (ADE) on 20-22 November 2020. Dr Preeti Dabadghao was the Chairperson, Dr Ganesh Jevalikar the Organizing Secretary, and Dr Sirisha Kusuma and Dr J Dhivyalakshmi the Co-organizing Secretaries. The 3-day event covered topics ranging from basic sciences to advanced technologies in type 1 diabetes and discussed important aspects concerning type 2 diabetes, neonatal diabetes, and other rarer types of diabetes. A half-day special session aimed at allied health professionals (but extremely useful for the entire audience), planned and conducted by Dr Leena Priyambada and Ms Sheryl Salis, on practical aspects of type 1 diabetes management, and a symposium for general pediatricians covering obesity and metabolic syndrome, helped to cover the whole spectrum of childhood diabetes and related disorders.



The event was very well attended, with a total of 1787 registrations, more than 500 logins for the live sessions, and more than 1000 participants reached through Facebook live sessions. The distribution of the registered delegates, with a gratifying substantial presence of allied health professionals, is shown

in the pie chart above. The delegates were from India, Bangladesh, Sri Lanka, and Kuwait. Overseas faculty for the meeting included Drs Gregory Forlenza (Denver, Colorado), Priya Prahalad (Stanford, California), Kate Gajewska (Dublin, Ireland), Debra Sadie (Sydney, Australia), Anna-Pham Short (Sydney, Australia) and Steven James (Sunshine Coast, Australia). A host of Indian faculty, including pediatric endocrinologists, dieticians, and diabetes educators, participated in the meeting.

The content of the meeting, selection of speakers, and adherence to timing were much appreciated by the participants. The sessions are now freely available on the official ISPAE YouTube channel https://www.youtube.com/channel/UC3ez8DJwpJEmAPzMK5m_akg.

Dr Anjali, Assistant Professor, Pediatrics, PGIMS, Rohtak



A Patient Education Booklet on Type 1 Diabetes (T1D) penned by Dr Anjali, Assistant Professor, Pediatrics, and Ms Meenu, Dietician at the State Institute of Mental Health, was released by the Dept of Pediatrics, PGIMS, Rohtak, in November, celebrated as Diabetes Awareness Month. Dr Sanjiv Nanda, Professor and Head of Dept, Pediatrics, PGIMS, while releasing the booklet, emphasised the importance of patient

education in T1D. The worthy Vice Chancellor and Registrar, UHS, congratulated the Dept of Pediatrics for their effort towards educating patients and their family members. The Education booklet will make patients and their families aware of T1D, its treatment and complications, as well as proper diet management.

World diabetes Day 2020. Dr Deepa Anirudhan, Assoc. Prof of Pediatrics, Dept of Pediatrics, Govt Medical College, Thrissur, Kerala.



World Diabetes Day was celebrated on 14th Nov 2020, on Zoom platform, in the Dept of Pediatrics, Govt. Medical College, Thrissur, Kerala. It was attended by about 50 children with T1d and their parents. A talk on “Psychological problems in children with T1d and remedial measures” was taken by our Clinical Psychologist Ms Sreeja. Children performed various programs like music, dance, puppet show, mimicry etc. A quiz program for patients was conducted online by Dr Basima and Dr Divya, Senior Residents. A quiz program for postgraduates on diabetes was conducted by Dr Vipin, Senior resident in Pediatrics.

Dr Sangeeta Yadav, Director Professor, Dept. of Pediatrics, Maulana Azad Medical College and Associated Hospitals

1. Speaker: Common Endocrine issues in Adolescents: ADOLESCON: National CME on Adolescent Medicine AHA Delhi 26-27th Sept. 2020
2. Speaker: Thyroid problems in Adolescence: ADOLESCON 2020: 20th National conference of Adolescent Health Academy 6-8th Nov. 2020
3. Speaker: Common Endocrine Problems in Adolescents: UP ADOLESCON: 1-2nd Nov 2020
4. Speaker: Born SGA: endocrine concerns: North Zone E PEDICON 21-22nd Nov. 2020
5. Chairperson: Endocrine sequelae of SGA. Pediatric Diabetes Update 2020, 20-22nd Nov 2020.

E-ENDOCON 2020. Dr Richa Arora, Fortis Hospital, Shalimar Bagh, Jaipur Golden Hospital, Delhi.

E-Endocon was organized from 15-18th Oct 2020 in association with IAP North Delhi, on Zoom platform. This was our third edition and first online meeting, conducted to enhance the knowledge of general pediatricians of pediatric endocrinology. It was attended by over 500 delegates from all over India. We had learned faculty from across India and overseas. There were four modules: the first day was devoted to growth, the second day to puberty, the third to diabetes, and the last day had mixed bag topics. Daily sessions were preceded by workshops. The concluding day's session was followed by a quiz, which the pediatric post- graduates very enthusiastically participated in.

Dr Ravindra Kumar, North Delhi Municipal Medical College & Hindu Rao Hospital, New Delhi

1. A webinar titled "Nuts and Bolts of Type 1 DM" was held on 29/07/20 in association with IAP Dehradun, attended by more than 40 pediatricians from Delhi and Dehradun. Dr Ravindra Kumar and Dr Richa Arora (Fortis Hospital, Delhi) were the faculty.
2. A webinar titled "Approach to case of short stature" was held on 2/08/20 in association with IAP North Delhi, attended by over 60 pediatricians from Chandigarh and Delhi. Dr Rakesh Kumar (PGI, Chandigarh) and Dr Rajni Sharma (AIIMS, Delhi) were the faculty, and Dr Ravindra Kumar the moderator.
3. A virtual seminar on "Approach to a case of goiter" was held on 16/08/20 in association with IAP North Delhi, attended by over 30 pediatricians and pediatric trainees. Dr Rajesh Khadgawat (AIIMS, Delhi) and Dr Ravindra Kumar were the faculty.
4. A webinar on "Approach to a case of delayed puberty" was organized on 23/08/20 in association with IAP North Delhi, attended by more than 40 pediatricians and students from Delhi. Dr Vijay Jaiswal (LLRM, Medical College, Meerut) and Dr Ravindra Kumar were faculty.
5. An online seminar on "Approach to a case of CAH" was organized on 30/08/20 in association with IAP North Delhi. It was attended by more than 40 pediatricians and students from Delhi and Kanpur. Dr Anurag Bajpai (Regency Hospital, Kanpur) and Dr Ravindra Kumar.

World Diabetes Day 2020" Awareness Program on Childhood Diabetes. Dr Nithya T, Consultant Pediatrician, Jubilee Mission Medical College and Research Institute, Thrissur, Kerala: 'Madhuryam'.

A virtual meeting was conducted online for the parents of kids enrolled in the Diabetic Clinic run by the Dept of Pediatrics, JMMCRI, on 13th Nov, 7-9.30 pm. It was inaugurated by Dr Vinod Jacob Cherian, HOD, Dept of Pediatrics, and had 50 attendees. Interactive classes on dietary management,

insulin therapy, sick day management and complications of diabetes, were taken by department faculty and residents, and an informative quiz conducted. This was followed by an entertainment program by the Guests of the day, our diabetic kids. Videos of their activities, songs and dance were shown and appreciated.

Online parent awareness program for families with type 1 diabetes. Dr Hemchand KP, Mehta Hospital, Chennai.

An online parent awareness program was conducted by Mehta Hospital on 28.11.2020 for parents of children with type 1 diabetes. A cultural program had all children showing their talents. An online education session on carbohydrate counting was conducted by Ms Sheryl Salis. Dr Aspi Irani from Mumbai spoke to the families on preparing for cure. Children spoke about their experience in managing type 1 diabetes. The program was attended by 60 families.

World diabetes Day 2020. Dr Vani H.N, Associate Professor, Indira Gandhi Institute of Child Health, Bangalore.



WDD was observed at IGICH, Bangalore, on a virtual platform on 28.11. 2020, to guide, educate and encourage our patients and their families in coping, and to clear myths. The program started with digital lamp lighting and prayer by the children. There was a motivational speech by Ms Geetanjali, who has T1D for over 30 years and is mother of two children. Ms Lavanya Prasad and Ms Aarti Katpalia entertained the kids with story telling and a puppet show. Dr Swarupa Kakani, Clinical Nutritionist, gave a talk on nutritional aspects in diabetes. Pre-recorded videos showcasing multitude of dance, yoga, singing and video montage of their paintings were played. About 60 children participated enthusiastically in the function. Director IGICH, Dr KS Sanjay, encouraged the children to make the best use of the services provided and to ensure good control of their diabetes. Colourful

cartoon print masks for children as a memoir for WDD were distributed during their subsequent in person clinic visits.

Santhosh Olety, Karnataka Institute of Endocrinology and Research, Bengaluru- World Diabetes Day Virtual Program



World Diabetes day November 14th, 2020 virtual program for children was organized by our dietetic department with the objective of Empowerment and Entertainment. A group of 150 kids with access to WhatsApp was formed and program was done for 3 days with different activity task on each day like drawings expressing their lock down experience and gratitude towards corona warriors, photos of their healthy eating plate and talents such as dance, singing, leisure time activities etc. It gave a different experience for kids and organizers, getting to adapt to new normal. A photo collage is shared here.

Publications by ISPAE members

Alpesh Goyal

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Jaivinder Yadav

1. Yadav J, Gupta S, Kumar R, Mahajan JK, Sodhi K, Thirunavukkarasu B, Dayal D. Photographic Journey of Cushing Syndrome. *Indian J Pediatr*. 2020 Sep 15. doi: 10.1007/s12098-020-03490-x. Epub ahead of print. PMID: 32930974.

Information on Upcoming International Conferences

1. 11th Biennial Scientific Meeting of APPES and Fellows' School: postponed to November 2021.
2. 11th International Meeting of Pediatric Endocrinology (IMPE) postponed to 19 - 22 March 2022 to be held at Buenos Aires, Argentina.
3. 54th Annual JSPE Meeting postponed (new date to be announced).