5th Global Meeting on Diabetes and Endocrinology
December 08-09, 2022 Rome, Italy

Volume 7
Issue 5

Journal of Clinical and Molecular Endocrinology

ISSN: 2572-5432

Pediatric endocrinology trainees' education and knowledge about insulin pumps and continuous glucose monitors

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Abstract (600 word limit)

Background: Recent data demonstrating a lack of improvement in average hemoglobin A1c levels despite the increased use of insulin pumps and continuous glucose monitors (CGMs) suggest that patients are not using these technologies optimally. Suboptimal provider understanding of these devices may be a contributing factor. Methods: We sought to assess fellows' knowledge, attitudes, and practices regarding insulin pumps and CGMs using a mixed-methods survey. We polled 42 pediatric endocrinology fellows and 69 attending physicians in pediatric endocrinology using items on a five-point Likert scale. Study data were collected and managed using the REDCap research electronic data capture tools hosted at Boston Children's Hospital.18 A link to the REDCap survey was embedded in an e-mail distributed to 1270 members of the Pediatric Endocrine Society (PES) in the United States and Canada. Face validity of the survey was assessed by having several fellows and attending physicians review the survey and provide itemized feedback in an interview format. Free-response questions explored how respondents learned about insulin pumps and CGMs and areas for improvement in fellows' knowledge of these devices. Results: Perceived fellow knowledge of insulin pumps and CGMs was only 3.6 ± 1.0 and 3.6 ± 0.9, respectively.. A total of 86 surveys were analyzed: 44 from attending physicians and 42 from fellows. Responses were fielded from June 14, 2018 through July 16, 2018 across two distributions of the survey. Fellows who responded after the start of the new academic year in July had all completed at least 1 year of pediatric endocrinology training and were instructed to identify their year of training for the 2017–2018 academic year. The development of formal educational curricula targeting areas of weakness identified in this survey may improve clinician knowledge of these technologies and ultimately impact patient education and care.

Importance of Research(200 words)

Type 1 diabetes (t1d) is one of the most common conditions managed by pediatric endocrinologists. Care of patients with T1D focuses on attaining glycemic control as close to normal as possible while minimizing hypoglycemia to prevent long-term complications.2 For the past decade, the use of insulin pumps and continuous glucose monitors (CGMs) has increased dramatically.3–5 From 2014 to 2017 insulin pump use among patients <26 years of age in the t1d exchange (T1DX) remained stable around 62%.6,7 In contrast, CGM use doubled over this same time period from 11% in 2014–2015 to 22% in 2016–2017.6,7 Research assessing the impact of these technologies has

resulted in mixed conclusions. Despite increasing use of these technologies in clinical practice, the average A1c among patients <26 years of age in the T1DX is not improving. In 2010–2012 the average A1c in this population was 8.5%.6. In 2016–2017 the average was 8.9%.

Biography: (200 words)

Errawan R.Wiradisuria was born on April 2nd, 1957 Bandung (Indonesia), dr. Errawan completed his medical doctor in University of Padjajaran Bandung, and continue his study to general surgeon in University of Indonesia

Jakarta and then take further education as a Digestive Surgeon in University of Indonesia Jakarta. Now current position as General Surgeon, Consultant in Digestive and Laparoscopic Surgery at Premier Bintaro Hospital – Jakarta and Mayapada Hospital – Jakarta. He is one of the Instructor in many Laparoscopic Surgery Courses in 1997 until now in Indonesia, in 2002 until now as a Executive Council Member (Governor) of ELSA, in 2006 until now as a Board Member of Asia Endo-surgery Task Force (AETF), in 2008 until now as a President of Indonesian Society of Endo-Laparoscopic Surgeons (ISES / PBEI), In 2016 until now as a Vice President of Indonesian Digestive Surgeons Association (IDSA / IKABDI), in 2016 until now as a Board Member of Asia Pacific Endo-Lap Surgery Group (APELS), in 2017 until now as a International Honorary Member of Japan Society for Endoscopic Surgery (JSES), in 2018 of Indonesia Metabolic – Bariatric Society (IMBaS).

Information of institute & lab

Padjadjaran University is an institution of higher learning located in Bandung, which is the provincial capital of West Java, and Sumedang, Indonesia. It was established on September 11, 1957. UNPAD has gained the most applicant and highest passing grade in National Selection of State University Entrance since 2013. UNPAD has two main campuses. One of the main campus located in Jatinangor, the other is Dipati Ukur campus, located in Bandung. Besides those two locations, there are several campuses spread over in Bandung including Sekeloa, Singaperbangsa, Dago 4, Simpang Dago, Dago Atas, Dago Pojok, Banda, Cimadiri, Cisangkuy, Eyckman, Pasirkaliki, Teuku Umar, and some other locations. Padjadjaran University is organised into 16 academic faculties along with one postgraduate school. It offers undergraduate, master's and doctoral courses in various disciplines of study. Students can also opt for specialist programs, professional courses, research and study abroad program.Faculties of the university are expert in their area of study and guide students for their life goals as well. Students can also go for one-year diploma and three-year diploma courses.

Recent Publications.

1. Mayer-Davis E, Lawrence J, Dabelea D, et al. : Incidence trends of type 1 and type 2 diabetes among youths, 2002–2012. *N Engl J Med* 2017;376:1419–1429

2. American Diabetes Association (ADA): Standard of medical care in diabetes—2017. *Diabetes Care* 2017;40(sup 1):s4–s128

3. Shalitin S, Peter Chase H: Diabetes technology and treatments in the paediatric age group. *Int J Clin Pract* 2011;65:76–82

4. Vigersky RA: The benefits, limitations, and cost-effectiveness of advanced technologies in the management of patients with diabetes mellitus. *J Diabetes Sci Technol* 2015;9:320–330

5. Wong JC, Foster NC, Maahs DM, et al. : Real-time continuous glucose monitoring among participants in the T1D exchange clinic registry. *Diabetes Care* 2014;37:2702–2709

6. Foster NC, Miller KM, Tamborlane WV, et al. : Continuous glucose monitoring in patients with type 1 diabetes using insulin injections. *Diabetes Care* 2016;39:e81–e82

7. Foster N, Miller K, DiMeglio L, et al. :. Marked increases in CGM use has not prevented increases in HbA1c levels in participants in the T1D Exchange (T1DX) clinic network. In: *American Diabetes Association*. Orlando, FL, 2018.

8. Evans-Cheung TC, Campbell F, Yong J, et al. : HbA1c values and hospital admissions in children and adolescents receiving continuous subcutaneous insulin infusion therapy. *Diabet Med* 2019;36:88–95

9. Maahs DM, Hermann JM, Holman N, et al. : Rates of diabetic ketoacidosis: international comparison with 49,859 pediatric patients with type 1 diabetes from England, Wales, the U.S., Austria, and Germany. *Diabetes Care* 2015;38:1876–1882

10. Wheeler BJ, Donaghue KC, Heels K, Ambler GR: Family perceptions of insulin pump adverse events in children and adolescents. *Diabetes Technol Ther* 2014;16:204–207

11. Petrie JR, Peters AL, Bergenstal RM, et al. : Improving the clinical value and utility of CGM systems: issues and recommendations. *Diabetes Care* 2017;40:1614–1621

12. Prahalad P, Tanenbaum M, Hood K, Maahs DM: Diabetes technology: improving care, improving patient-reported outcomes and preventing complications in young people with Type 1 diabetes. *Diabet Med* 2018;35:419–429

13. Karges B, Schwandt A, Heidtmann B, et al. : Association of insulin pump therapy vs insulin injection therapy with severe hypoglycemia, ketoacidosis, and glycemic control among children, adolescents, and young adults with type 1 diabetes. *JAMA* 2017;318:1358–1366

14. Zabeen B, Craig ME, Virk SA, et al. : Insulin pump therapy is associated with lower rates of retinopathy and peripheral nerve abnormality. *PLoS One* 2016;11:1–10

15. Chase HP, Beck RW, Xing D, et al. : Continuous glucose monitoring in youth with type 1 diabetes: 12-month follow-up of the Juvenile Diabetes Research Foundation continuous glucose monitoring randomized trial. *Diabetes Technol Ther* 2010;12:507–515