

## Background

- Utilization of continuous glucose monitoring (CGM) has significantly increased in the past decade.<sup>1</sup>
- Coverage and reimbursement for CGM devices are increasingly from the patient's pharmacy benefit.<sup>2</sup>
- Pharmacy students must understand how these devices support diabetes self-management and be able to counsel patients on their use.

## Objective

- To evaluate implementation of a hands-on experience using continuous glucose monitors provided to third-year pharmacy students

## Methods

- **Study Design:** Pre-post educational assessment.
- **Study Sample:** All third-year pharmacy students enrolled in a pharmacy skills lab course.
- **CGM Education:** A brief introductory lesson on CGM was provided. Students were then allowed to wear a Dexcom G6 CGM for up to 10 days. Dexcom G6 sensors and transmitters were obtained as part of an educational grant.
- **Data Collection:** Pre-post self-developed survey about confidence related to CGM knowledge and skills. Students were also asked open-ended questions about how the experience would impact their future practice as pharmacists.
- **Data Analysis:** Pre-post data was analyzed using a paired samples t-test and open-ended questions were analyzed by three researchers using a thematic analysis process.

## Results

- A total of 116 students participated in the project.
- **Student confidence increased (p<0.001) for all survey items which included:**

**Knowledge and understanding of CGM**

**Understanding goals of CGM use**

**Ability to educate patients on use of a CGM**

**Ability to interpret an Ambulatory Glucose Profile**

## Students identified three themes that this experience provided:

**Ability to experience a day in the life of a person with diabetes**

*"It was very interesting to follow my blood glucose and figure out what food and drink would help with lows and how others would affect my glucose levels. I think this is a great opportunity for pharmacy students because we can gain a better understanding for what our future patients are going through."*

**Opportunity to apply didactic knowledge to practice**

*"We learn about CGM in class but it really is a whole difference experience when you wear one and experience what it is like. I think that helps me become a better teacher and educator when I am counseling patients on this in the future."*

**Increased confidence in patient counseling and education**

*"I will be able to better understand the reservations patients have about using a CGM and help answer questions they may have regarding placement, the mobile application, and removal. I definitely feel more confident in my ability to teach patients about the utility of CGMs and how simple they can be to use!"*

## Conclusions

- CGM is rapidly becoming the new standard of care for monitoring glucose levels in persons with diabetes (PWD).
- Because of increased pharmacist engagement with education on and interpretation of results from CGM, it is essential that pharmacy students have the opportunity to engage with CGM devices as part of their required curriculum.
- Having hands-on exposure to these devices not only increased student confidence in their knowledge of the product and ability to educate patients but provided them insight into how a PWD may benefit from their use.
- Educational grants are available through CGM manufacturers and should be sought out by faculty to allow students exposure to these devices as part of pharmacy school curricula.

## References

1. Olczuk D, Priefer R. A history of continuous glucose monitors (CGMs) in self-monitoring of diabetes mellitus. *Diabetes Metab Syndr*. 2018;12(2):181-187.
2. DexCom, Inc. First Quarter 2021 Earnings Release Conference Call webcast. <https://investors.dexcom.com/events/event-details/dexcom-inc-first-quarter-2021-earnings-release-conference-call>. Published April 29, 2021. Accessed June 1, 2021.

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