Young Adults Transitioning to College with Type 1 Diabetes: Scoping Review of Campus Life

Jennifer Saylor PhD, APRN-BC[1] & Christina Calamaro, PhD, CRNP[2]

[1]University of Delaware, Newark, Delaware; [2]Nemours/A.I. duPont Hospital for Children, Wilmington, Delaware

PURPOSE

- To explore the effect of college campus living on diabetes management among young adults with type 1 diabetes (T1D)

BACKGROUND

- Approximately 3 million Americans have T1D[1]
- US incidence: Caucasians-highest & African Americans-lowest
- Prevalence: expected to rise 70% by 2020 for those < 15 years[1]
- Rise in T1D increases # of college students with T1D
- Delicate balance between adhering stable glucose level while attempting to integrate into campus life
- National Longitudinal Study of Adolescent Health: young adults with childhood-onset chronic conditions (including T1D) had a lower rate of college graduation as compared to young adults without chronic illness (18.0% vs 32.2%)[2]
- Campus life: group of people with a common purpose or shared duties at an institution of higher learning,[3,4] does not fully encompass the college campus experience from a health & wellness perspective

METHODS

- Scoping review: method of knowledge synthesis that summarized college campus living for those with T1D to illustrate its breadth
  - Arskey & O'Malley's framework of 5 stages
  - Map key concepts to identify the current state of understanding within policy & practice settings[5]
- Databases: Cinahl, Pubmed, PsychINFO, Cochrane, & Google
- Search Dates: January 1994– June 2015
- Key terms: type 1 diabetes, transition, young adults,
- Inclusion Criteria:
  Type 1 Diabetes only
  Young Adults 18-26
  High school graduates
  Residing in dormitory on college/university campus

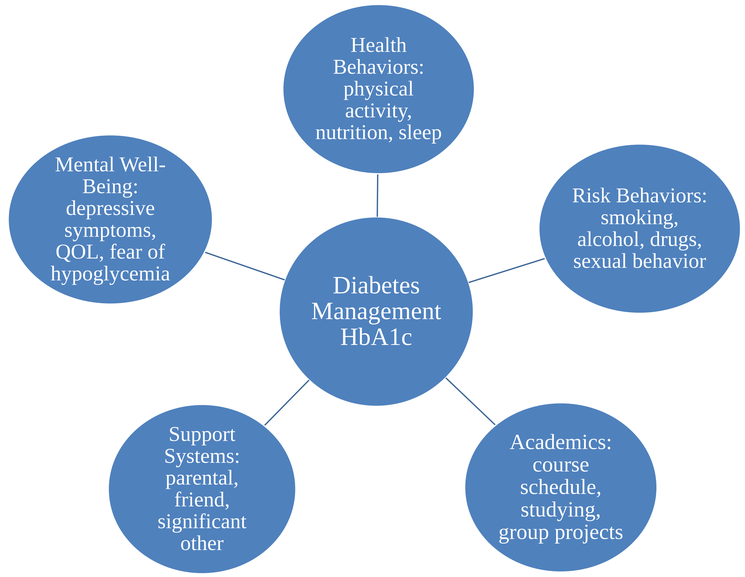
LITERATURE SEARCH

- 364 • All databases combined using search terms
- 109 • Duplicates removed (Excluded 245)
- 43 • Initial title/abstract screen (Excluded 66): Not focused post-high school students or young adults
- 18 • Full text review (Excluded 25) Did not focus on living at a college/university or health outcome of hemoglobin A1c
- 18 • Included in Scoping Review

RESULTS: CAMPUS LIFE FRAMEWORK

Health Behaviors

- University food environment impacted diabetes management: "predictable poor food choices" in the cafeteria & food was prohibited in the library, laboratories, & certain classrooms[6]
- Freshmen with T1D eating in dining hall: food was not conducive with diabetes management[7]
- Sleep deprivation & behaviorally induced insufficient sleep negatively impacted insulin resistance & glucose tolerance, as well as learning, memory, attention, immune response[8,9]
- Metabolic disturbance may negatively impact athletic performance during physical activity



Academics

- "….I told one of my tutors I needed a break during my exams to check my blood. He said it was my responsibility to deal with it & make sure that I can sit through an exam like other students without taking a break." [10]
- students keep their blood glucose levels high: increases risk of short & long term sequelae of poor concentration, irritability & finally potential systemic vascular injury[10, 11]
- Require planning for glucose checks & insulin administration before & during a class, study session or group project in order to prevent hypoglycemia

Mental Well-Being

- Without socialization, young adults with T1D reported a decreased quality of life[10]
- Fear of hypoglycemia: most stated psychological concern when adjusting to campus life[12]
- Beck Inventory: ↑ depressive symptomatology was associated with ↑ worry about hypoglycemia[13]
- Those with T1D perceived their chronic condition to impede participation in social events[10]

Risk Behaviors

- 1st year college students reported that by drinking alcohol in social settings they were able to "produce a desired social identity; to be normal"[14]
- Alcohol use alone was associated with less worry about hypoglycemia[15]
- Many internet sites are inaccurate with regard to T1D & alcohol consumption
- National Health & Nutrition Examination Survey 1999-2008, tobacco smoking was shown to increase HgA1c among individuals without diabetes24 & with T1D[16]

Support Systems

- Diabetes self-management & socialization are influenced by support systems:[12,17] parental, friend, significant other, & teachers/professors

DISCUSSION

- Hanna & colleagues developed a theoretical framework for transitions of young adults with T1D & identified high school graduation as an important transition
- Campus living framework incorporates the aspects of the socioecological model
- Meeting the needs of college students for optimal health & wellness involves management of changing health behavior patterns & mental well-being[18]
- Internet sites were not always accurate, especially blood glucose & alcohol[19]
- Sound Transition Website: College Diabetes Network (CDN): https://collegediabetesnetwork.org[20]
- College campus living unpredictability many affect students physical & mental health, thus ultimately lead to poor diabetes management & HgA1c

RESEARCH IMPLICATIONS

- Describe resources available at college for students with T1D
- Evaluate barriers & facilitators of campus living among college students with T1D
- Evaluate the inter-relationships in the campus living framework & their effect on diabetes management
- Develop & evaluate programs to foster diabetes management among college students with T1D from the student & university perspective
- Measuring nursing's pivotal role in maintaining health & wellness for those with T1D as they transition to campus life

CONCLUSIONS

- Improving hemoglobin A1c are salient for college campus living among those with T1D to prevent a negative trajectory
- Dearth of literature on the effects of campus living for college student with T1D on diabetes management
- Challenges exist among college students with include balancing self-care practices with a college life-style: erratic eating & sleep schedule, varying course schedule/studying, social aspects (alcohol), emotional aspects (normalizing diabetes)