

**Sources of Support:** The study was supported by the intramural research grant from the National Cheng Kung University Hospital (NCKUH- 10408025).

140.

# **EFFECT OF AN IPAD-BASED INTERVENTION ON SEXUAL HEALTH KNOWLEDGE AND INTENTIONS FOR CONTRACEPTIVE USE AMONG ADOLESCENT FEMALES AT A SCHOOL-BASED HEALTH CENTER**

Veronika Mesheriakova, MD, Kathleen Tebb, PhD.  
University of California San Francisco.

**Purpose:** Despite recent declines, the U.S. continues to have high rates of teenage pregnancy with the majority of these (60%) being unintended. While longer acting, reversible contraceptives (LARCs) are now recommended as a first line contraceptive option for adolescents, fewer than 5% of women aged 15-19 are using a LARC method. This study examined the effect of an interactive iPad application (app) on sexual health knowledge and intentions to use effective birth control methods.

**Methods:** Female patients aged 12-18 years at two school-based health centers (SBHCs) were invited to use the Health-E You app during their visit between April and September 2013. The app gathered baseline demographics (age, race/ethnicity, sexual activity, and current birth control use). Baseline sexual health knowledge was measured with a series of myth/fact statements. Next, patients were directed to explore contraceptive options as part of the app's interactive learning module, which provided individually tailored contraceptive decision-making support. Intent to use contraception was assessed at the end of the module and users could choose to share that information directly with their health care provider via secure e-mail. Finally, sexual health knowledge was reassessed with a series of True/False statements. The study was IRB approved.

**Results:** The study included 121 adolescent girls aged an average of 16.4 years (range 12-18 years, SD=2.34). Most were Latina/Hispanic (44%), 23% were Black, 8% Asian, and 8% White (17% did not respond). There were significant pre-post changes in participants' sexual health/contraceptive knowledge. The mean proportion of correct answers at baseline was 58% (range 14%-86%, SD=0.3) which increased significantly at post-test to 79% (range 29-85%, SD=0.3,  $p<.001$ ). Prior to using the app, 70% of sexually active girls indicated that they were not using effective contraception. Of these, most (69%) intended to use an effective method after using the app; 33% intended to use a non-LARC hormonal contraceptive, 18% intended to use a LARC method, and 13% intended to use condoms. In addition, 7% indicated that they would only consider using an ineffective method such as withdrawal, calendar method, or no method at all (29% did not respond). Providers and youth reported high satisfaction with the app. Providers and clinic staff found it feasible to integrate into their SBHC system and felt it improved the efficiency and effectiveness of the face-to-face visit.

**Conclusions:** The Health-E You app is feasible to implement in SBHCs, acceptable to racially/ethnically diverse adolescent girls, and significantly improves sexual health knowledge and intentions to use effective methods of contraception – especially among the highest risk girls (those who are sexually active and not currently using any effect method of contraception). While current rates of LARC use among adolescents is less than 5%, after using the app, 17% of sexually active girls indicated that they would use a LARC method.

**Sources of Support:** Leadership Education in Adolescent Health Program (T71MC00003).

## **POSTER SESSION I: TRANSITION TO ADULT CARE**

141.

# **TRANSITIONMATE: A MOBILE PHONE APPLICATION TO SUPPORT SELF-MANAGEMENT AND TRANSITION IN YOUNG PEOPLE WITH CHRONIC ILLNESS**

Harriet Mary Gunn, MBBS<sup>1</sup>, Yu Zhao, BS<sup>2</sup>, Abelardo Pardo, PhD<sup>2</sup>, Rafael A. Calvo, PhD<sup>2</sup>, Katherine S. Steinbeck, MD, PhD<sup>2</sup>.

<sup>1</sup>The Children's Hospital at Westmead; <sup>2</sup>The University of Sydney.

**Purpose:** Transition from paediatric to adult healthcare is often a complex and daunting process for adolescents, requiring significant adjustment and increased patient autonomy. During adolescence, health trajectories into and throughout adulthood are established and commonly the control of chronic illness deteriorates. The ubiquitous nature of mobile phones facilitates novel communication channels to engage and empower young people to take greater control of their illness management and to improve health outcomes during this crucial period. The aim of this study was to develop and evaluate a smartphone application (TransitionMate) to support self-management and transition in young people with chronic illness.

**Methods:** This was a multi-centre, prospective, feasibility study in young people who had transitioned from paediatric to adult care. Participants were 18-25 year olds with diabetes, cystic fibrosis or inflammatory bowel disease attending outpatient clinics in University Teaching hospitals in Sydney, Australia. Following baseline questionnaires, TransitionMate was programmed with personalised medication and health-related task reminders. Additional functions included a mood and health-tracker, health reports, memos and clinical contact details. Participants used TransitionMate for four weeks and completed post-test questionnaires regarding functionality, usefulness and suggested modifications for a future version of TransitionMate. Participants' application interactions were recorded via a dedicated secure remote server.

**Results:** To date, ten participants have trialled TransitionMate (7 female) mean age 20.2 years (range 18.0-25.1) with a further 20 participants to be enrolled by the end of 2015. As part of their chronic illness management, participants performed on average seven health-related tasks each day (e.g. taking medications or performing a procedure), the frequency of which did not differ between illness groups ( $p=0.56$ ). Only two participants had previously used health related smartphone applications. Participants requested a mean of 3.8 (range 2.1-6.4) daily personalised reminders, with no difference between illness groups ( $p=0.57$ ). Participants responded to 60.8% reminders (range 26.7-100.0%) and interacted with TransitionMate a mean of 9.2 times daily (range 1.9-22.6). 'Reminders' were the most frequently used function, on average 21.5 times a week, followed by viewing 'contact details' (12.2 times weekly) and viewing the 'health report' (11.9 times weekly). 'Reminders' were also the "favourite" function (all but 1 participant) and the "most helpful" function (all participants). Ease of use was reported as 8.1 out of 10.0. Application usefulness regarding self-management and transition support was rated as 7.4 out of 10.0. Reasons cited for TransitionMate usefulness were "helping remember my medications" (100% participants), "keeping on top of my health" (71.4%), "tracking my medication

use” (42.9%), “tracking my health progress” (42.9%) and “creating routine” (28.6%). Ninety percent of participants would recommend TransitionMate to young people with chronic illness to help transition and self-management ( $p=0.04$ ).

**Conclusions:** This study provides promising novel data emphasizing the usefulness of TransitionMate to engage and support young people across a range of chronic illnesses. This study will guide modifications of a new multiplatform version of TransitionMate to be trialled in a larger group of younger participants in paediatric and adolescent healthcare settings, undergoing the transition process.

**Sources of Support:** Agency for Clinical Innovation and the Ministry of Health, New South Wales, Australia.

142.

#### TRANSFER ENGAGEMENT LESSONS LEARNED (TELL): USING PATIENT PERSPECTIVES TO INFORM AND IMPROVE TRANSITION PROCESSES

Adam Seth Greenberg, MSN<sup>1</sup>, Sophia Jan, MD<sup>1</sup>, Dava Szalda, MD<sup>1</sup>, Symme Trachtenberg, MSW<sup>1</sup>, Caren Steinway, MPH<sup>1</sup>, Regina Miller, LCSW<sup>2</sup>, Olivia Varney, BA<sup>1</sup>.

<sup>1</sup>The Children's Hospital of Philadelphia; <sup>2</sup>University of Pennsylvania Health System.

**Purpose:** Improving transitions from pediatric to adult medical systems is a national priority. Frameworks to develop and improve individual transition programs exist, however, the patient and caregiver perspectives are often underrepresented. As informed healthcare utilizers, patients and their caregivers offer valuable systems insights not always apparent to healthcare providers. By better understanding the patient/caregiver narratives, we can more precisely inform future transition policies and processes.

**Methods:** We conducted semi-structured interviews with eleven open-ended questions exploring the most memorable aspects of transition, beneficial and non-beneficial interventions, service gaps, and advice for improving current strategies. Patients and caregivers were recruited from lists provided by healthcare providers from a large, urban, academic children's hospital (CH) and a large, urban, academic adult hospital (AH). Inclusion criteria were patients transferred from the CH to AH within the past two years, including patients with intellectual and developmental disabilities. Patients/caregivers who were non-English speakers were excluded. All interviews were conducted over the phone, recorded, and transcribed verbatim. Using NVivo 10 software, we performed content analysis of transcribed interviews using thematic analysis. Demographic and clinical data were collected from each institution's electronic medical record.

**Results:** Twenty three participants were contacted and eleven participants completed interviews (three interviews were with caregivers.) The most common diagnostic categories were gastrointestinal, renal, and neurologic. Patients' ages ranged from 19-23. Initial themes to emerge about the transfer process while patients still in the care of the CH were: importance of an AH doctor recommended by the CH physician, perceived abandonment at discharge, and lack of follow-up communication by CH providers after transfer of care. Themes that emerged about the transfer process while in the care of the AH provider were that AH providers made assumptions about patients' medical literacy and/or medical decision making capacity, CH care plans were not being followed, fewer supportive services, and system access was difficult. Patient and family level themes were the importance of

feeling understood by the adult provider and the importance of the patient/provider “match.” Of note, three participants (~27%) left the AH system: two due to differing medical needs and the third patient left because their insurance was no longer accepted. Additional interviews will be conducted until thematic saturation is reached. Interview completion is estimated to occur by October 2015. Analysis will be completed by January 2016.

**Conclusions:** Patients and caregivers cited multiple areas of improvement during the transition from pediatric to adult medical care. Future improvement initiatives should address the emotional needs of transitioning patients and families, facilitate the patient/provider match, address perceived communication differences between patients and adult providers, and increase patient/caregiver access to their adult providers. This work has also illustrated the importance of setting expectations, particularly when operational differences between pediatric and adult medical systems affect care delivery. These results will help to inform our current and future transfer of care processes.

**Sources of Support:** This project was jointly funded by the Leonard Davis Institute, the Center for Public Health Initiatives, and the Center for Clinical Epidemiology and Biostatistics at the University of Pennsylvania.

#### POSTER SESSION I: VIOLENCE (PHYSICAL AND NON-PHYSICAL)

143.

#### CYBER ADOLESCENT RELATIONSHIP ABUSE AND REPRODUCTIVE COERCION: VICTIMIZATION AND PERPETRATION AMONG ADOLESCENTS UTILIZING A PEDIATRIC EMERGENCY DEPARTMENT

Kimberly A. Randell, MD<sup>1</sup>, Megan Bair-Merritt, MD, MPH<sup>2</sup>, Melissa Miller, MD<sup>1</sup>, David Williams, MPH<sup>1</sup>, Sarah E. Evans, PhD<sup>3</sup>, Patricia Schnitzer, PhD<sup>4</sup>, Jami Jackson, MD, MPH<sup>1</sup>, M. Denise Dowd, MD, MPH<sup>1</sup>.

<sup>1</sup>Children's Mercy Hospital; <sup>2</sup>Boston University Medical Center;

<sup>3</sup>Complete Children's Health; <sup>4</sup>University of Missouri.

**Purpose:** This study describes prevalence of cyber abuse (use of technology to harass and control a romantic partner) and reproductive coercion (RC; behavior to maintain power and control related to the reproductive health of a romantic partner) among adolescents in dating relationships and examines associations with other forms of adolescent relationship abuse (ARA).

**Methods:** Adolescents aged 14-19 years with a past or current history of dating were recruited from two Midwestern pediatric emergency departments (PEDs). Subjects completed a computerized survey to assess ARA (physical, sexual, psychological, cyber abuse) and RC victimization and perpetration. All questions were based on validated survey instruments. Results were analyzed separately for males and females; we used bivariate analyses to assess relationships between cyber ARA, RC and potentially associated variables.

**Results:** 340 (67% of those approached) adolescents completed eligibility screening; 300 qualified for enrollment and participated. Mean age was 16.1 years; 56% were female, 44% White, 47% African American, 22% Hispanic and 58% publicly insured. The majority (90%) identified as heterosexual. The majority (70% of males, 73% of females) reported cyber ARA victimization, most commonly