Puppy love, adolescence, and chronic illness: the importance of pets for youth with type 1 diabetes

Ashby F. Walker PhD,[a,b] Cathryn Johnson PhD,[c] Desmond A. Schatz MD,[b] Janet H. Silverstein MD,[b] Henry J. Rohrs MD[b]

Abstract:

The benefits of animal-companion ties to well-being are consistently documented, yet few studies use patient-centered methodologies to examine how youth living with chronic illnesses rely on domestic pets for support. Youth with type 1 diabetes (T1D) aged 12 to 19 years (N=40) completed surveys involving a prompt to take five photos of "what diabetes means to you," with an accompanying narrative. Content analysis was conducted for photos/narratives and numeric variables analyzed including socio-economic status (SES: measured by total household income and years of parental education) and HbA1C. More than half of the youth participants took pictures of coping mechanisms, including pictures of their pets. In fact, pictures of pets outnumbered pictures of people three to one. Pet depictions were captured by youth from all SES levels. Youth with T1D identify pets as an important source of support. More research is needed to understand how pets may offset disease burden for youth with T1D.

[a] Department of Health Outcomes and Policy and the Institute for Child Health Policy, University of Florida
[b] Department of Pediatrics, University of Florida
[c] Department of Sociology, Emory University

Corresponding author

Ashby F. Walker, PhD
Department of Health Outcomes and Policy and the Institute for Child Health Policy, College of Medicine, University of Florida
2199 Mowry Rd, Room 112
Gainesville, Florida 32611

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There is growing recognition of potential health benefits associated with animal-human companionship ties through pet ownership.[1] Recent research has provided inconsistent results with regard to pet ownership having a direct causal relationship with physical health benefits,[2,3] but there is little dispute over the psycho-social value pets provide.[1,4] These findings could be of particular significance for adolescents living with chronic illnesses, as pets could offer a rich layer of social support and serve as a potential coping mechanism.[5,6] Despite the emerging interest in this topic and substantial studies on formal animal therapy,[7] few studies have focused on the ways in which adolescents with chronic diseases informally rely on domestic pets as a source of coping or other psycho-social mechanisms to offset the burden of disease.

In an effort to better understand the experiences of youth with type 1 diabetes (T1D), we conducted an exploratory study using photovoice,[8] where youth were provided with disposable cameras and prompted to take five pictures of what diabetes meant to them, with an accompanying narrative. While our study did not mention pets, a significant portion of youth participants took pictures of their pets and elaborated in narratives about their importance in managing the challenges of diabetes. Here, we present the pet photos and narratives as patient-centered evidence that domestic animal-companionship serves a vital role in the lives of adolescents with T1D, and this benefit is noted by youth from all socio-economic levels.

Methods

Survey research was conducted with youth with T1D and their parents/caregivers under a protocol approved by the IRB-01 at the university where the research took place. Recruitment occurred at routine pediatric endocrine visits, and selection criteria included: (1) a diagnosis of T1D (2) age 12 to 19 years and (3) two or more years since disease onset. Youth surveys contained the photo/narrative prompt, HbA1c was collected as measure of glycemic control and parents/caregivers completed surveys with family demographic data. Survey materials, including provided disposable cameras, were sent home with families and returned in postage-paid envelopes, with $30 mailed to youth participants upon study completion.

Content analysis was used to systematize the major types of representations conveyed by youth through a method of constant comparison associated with grounded theory.[9] Intercoder reliability was established at >95 percent. Our research expanded on traditional photovoice[8] projects in seeking to identify possible demographic variations in photo depictions. To accomplish this aim, demographic information was collected and analyzed, including gender, race/ethnicity, age of disease onset and socio-economic status (SES). SES was measured by total household income and by parental years of education. Photo index scores were assigned based on the major themes in representation and compared for variation across demographic groups using Mann-Whitney U testing. SPSS version 21 was used to examine numeric variables with basic frequency distributions, a comparison of means and t-tests and through Pearson's correlation.

Results

Forty youth and their parents/caregivers participated, and patient characteristics are shown in Table 1. In keeping with T1D trends in the U.S., we had equal gender ratios, an overrepresentation of white participants and a range of SES households, with youth from the lowest SES thresholds having the poorest levels of glycemic control. The most common types of photos taken by youth included "challenge photos" and "resilience photos," with more than half of the youth taking pictures of the these themes divided into the following five

Table 1: Survey Sample Characteristics

	N=40	HbA1c
Age	15 ± 1.9	
Duration of Disease	6 ± 3.9	
Gender:		
Female	20	8.5% ± 0.8
Male	20	8.6% ± 1.5
Race/ethnicity:		
Black	3	10.2% ± 0.6
Hispanic	3	8.8% ± 0.4
White	33	8.5% ± 1.2
Other: "Multiracial"	1	—
SES by Total Household Income:		
⩽ $40,000 (Poor/Working Class)	13	9.5% ± 1.6
$40,000-$80,000 (Middle Class)	14	8.2% ± 0.9
⩾ $80,000 (Upper Middle and Upper Class)	12	8.3% ± 0.6
Missing Data	1	
Parental Education:		
Did not complete High School	3	10.9% ± 1.3
High School Diploma	14	8.8% ± 0.9
Associates Degree	7	8.2 % ± 0.9
Bachelor's Degree	9	8.2% ± 1.1
Graduate Degree	7	8.3% ± 0.8

Table 2. Pet Images and Narratives Provided by Youth Participants Responding to the Prompt: "To me, diabetes is ..."

	**Photo name:** "Birds" **Narrative:** "Just watching them makes me forget about diabetes."	**Age:**17 **Gender:** Female **Race/Ethnicity:** White **SES*:** >$80,000 **T1D Duration:** 2 years
	**Photo name:** "My cats [Sugar**] and [Tabby]" **Narrative:** "My babies are the two animals that will always love me unconditionally just for who I am."	**Age:** 18 **Gender:** Female **Race/Ethnicity:** White **SES:** $40,000-$60,000 **T1D Duration:** 11 years
	**Photo name:** "Lizard" **Narrative:** "My pet lizard takes my mind off diabetes and worry. Diabetes has made me think about keeping my pets more healthy."	**Age:**14 **Gender:** Male, **Race/Ethnicity:** White **SES:** <$40,000 **T1D Duration:** 2 years
	**Photo name:** "My dog" **Narrative:** "Animals can have diabetes too. They have to do everything just like a human would."	**Age:**12 **Gender:** Male **Race/Ethnicity:** White **SES:** <$40,000 **T1D Duration:** 3 years
	**Photo name:** "My dog [Spot]" **Narrative:** "Because family is my main reason to live and stay alive."	**Age:** 14 **Gender:** Female **Race/Ethnicity:** White **SES:** $40,000-$60,000 **T1D Duration:** 11 years
	**Photo name:** "Cat locked in a crate" **Narrative:** "Trapped."	**Age:**14 **Gender:** Male **Race/Ethnicity:** White **SES:** >$80,000 **T1D Duration:** 10 years

*Socio-economic status measured by total household income
**Pet names were changed to ensure anonymity

major categories: diabetes supplies as tethering (30 percent of photos), food as a source of frustration (28 percent), the body as the site of disease encroachment (10 percent), coping mechanisms (18 percent), and symbols of stigma resistance (12 percent).[10]

Coping mechanism photos were pictures of things youth enjoyed doing to help offset the challenges of living with T1D and included pictures of extracurricular activities, hobbies, favorite places and relationships with people as well as animals. Of coping mechanism photos, pictures of pets outnumbered pictures of people (friends/family) three to one. Youth from the lowest SES thresholds were just as likely to take photos of pets as a coping mechanism, quite unlike photos of extracurricular activities that were only taken by youth living in households with >$80,000 yearly income. Pets included dogs, cats, turtles, grasshoppers, lizards and birds. Examples of pet photos and narratives are presented in Table 2.

Youth narratives reveal that pets are a source of acceptance, distraction and even identification in dealing with T1D. One female explains, "The innocence of my dog signifies that she accepts me no matter what. Her pure soul and constantly loving attitude are never hindered by my diabetes, because she sees me for who I am, not what I have." (White female, 17, SES >$80,000 describing a photo of her dog) Youth also identify distraction as an important therapeutic quality of pets, stating, "a pet … takes my mind off worrying about things." (White male, 14, <$40,000 describing a photo of his grasshopper.) Finally, youth also used their pets as a venue to talk about how diabetes made them feel or as an example of how diabetes affects "everyone" including animals (see Table 2). This is poignantly captured in one youth narrative: "trapped." (White male, 13, SES >$80,000 describing a photo of his cat locked in a crate – Table 2)

Discussion

Our findings are limited in terms of their ability to test the effectiveness of domestic pets as a coping mechanism given the exploratory nature of this study. Even so, it is noteworthy that when prompted to depict "what diabetes means to you," just under half of the youth (16 out of 40) talked about the importance of pets in living with T1D. Additionally significant is that youth from all SES thresholds took these photos, as some research suggests that emotional/affectual ties to pets are distinct features of white, upper SES culture.[11] We lack enough racial variation in our sample to note patterns according to race/ethnicity but we did have enough SES diversity to demonstrate that youth from the lowest SES thresholds display affectual ties to their pets. Preliminary data from this study show that pets could provide a catalyst for improved communication about diabetes-related experiences among youth, caregivers and providers and may ultimately serve as a therapeutic tool. More studies are needed in this area.

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