

Exploring Caregivers' Impressions of *The 3Ms* eHealth Intervention



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BACKGROUND

- Type 1 diabetes (T1D) affects 1 in 500 youth
- Management of T1D requires a complex daily regimen
- Adolescents are at elevated risk for poor diabetes management
 - $\frac{2}{3}$ of adolescents struggle to hit management targets
- Black youth are also at increased risk of poor metabolic control
 - Compared to White youth, Black youth have higher HbA_{1c} levels
- Parental monitoring is correlated with:
 - Prevention of elevated HbA_{1c} levels
 - Increased metabolic control
 - Greater adherence to diabetes regimen
- Monitoring declines as youth reach adolescence
- Interventions targeting parental monitoring to improve T1D management among adolescents are lacking

OBJECTIVE

- Present study explored caregivers' impressions of *The 3Ms*, an eHealth intervention intended to improve parental monitoring
- Impressions were informed by exit interviews covering several aspects of the intervention including structure and content

THE 3MS INTERVENTION

- 3 brief counseling sessions delivered via internet
- Brief psychoeducation to inform caregivers about parental monitoring behaviors through 2 video clips: pediatrician providing 3Ms recommendations and parent providing a testimonial
- Assessment of confidence and importance for engaging in parental monitoring followed by motivation-building therapeutic exercises
- Each session ended with goal setting
 - Ideal goal: "use *The 3Ms* every day"
 - Intermediate goal: "use supporting strategies"
 - Opt-out goal: "think about it"

METHODS

Design

- Caregivers enrolled in a randomized clinical trial (RCT) investigating the intervention's effect on HbA_{1c} levels
- Cross-sectional design to engage caregivers at various points in their completion of the intervention

Measures

- Semi-structured qualitative interviews
 - 15 open-ended questions/probes assessing:
 - Caregivers' impressions of intervention content
 - Perceived changes in caregiver supervision and teen behavior
- 2 closed-ended questions rating intervention helpfulness and likelihood of recommending
- Survey: caregivers' sociodemographic data

Analyses

- Quantitative data: Descriptive analyses with SPSS Statistics v25
- Qualitative data: Directed content analysis with NVivo v12
 - Initial coding framework derived from previous research
 - Two coders independently coded then completed coding comparisons to resolve discrepancies ($k = 0.64$)

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RESULTS

Table 2. Sociodemographic Data

Mean Caregiver Age	47.59
Caregiver Gender	
Male	3
Female	18
Caregiver Race	
African American	21
Mean Household Income	\$39,000
Mean Teen Age at Study Entry	15.86
Teen Gender	
Male	7
Female	14
Mean HbA _{1c}	11.46%
Teen Race	
Black/African-American	20
Biracial	1

Table 2. Caregiver Ratings of *The 3Ms*

Measure	M	SD
Mean Helpfulness ^a	8.6	1.4
Mean Recommendation ^b	9.3	1.4
Session Structure	%	N
Duration		
Satisfied	81%	17
Shorter	19%	4
Longer	0%	0
Number		
Satisfied	71%	15
Fewer	0%	0
More	29%	6
Location		
Clinic	86%	18
Home-based	14%	3

^a Range 1 "least helpful" and 10 "extremely helpful"

^b 1 being "not at all" and 10 "definitely"

Parenting Educational Impact

Helpful Reminder

Caregivers described how the intervention reminded them to supervise their teen during diabetes management tasks

"I do think that the program did help me kind of keep that in the forefront of my mind to make sure that I check [blood glucose levels]."

The 3Ms

Caregivers described how the 3Ms mnemonic simplified diabetes management tasks into specific parental monitoring strategies

"It specifically gave directions as to what to do with your child. 3Ms helped a lot because it's just simple, those 3Ms are just simple and that's really what you do."

Caregiver Knowledge

Caregivers described how the intervention provided further insight and clarified supervisory strategies

"There's so many different little myths out there that are so wrong, so this would give people good information... if they got into [the 3Ms]."

Social Impact

Caregiver-Teen Collaboration

Caregivers described how their teamwork with their teen improved after the intervention

"She's more comfortable with checking it... [it] seems like since I'm doing it with her with the 3Ms, she's getting used to it"

Shared Experience

Caregivers related to the caregiver depicted in the peer testimonial

"It's always good to hear something from another parent just to see if you guys experienced the same thing or are going through the same thing."

Teen Impact

Caregivers noticed their teens becoming more proactive in completing their diabetes management tasks

"I have seen a change in how he approaches [checking blood sugar levels] a lot of times. Now, I don't have to ask him to see his meter. He'll automatically bring it to me and show it to me."

Family Support

Caregivers described how the intervention impacted support from relatives

"Getting family members to assist is another thing I've been using in that implemented on the 3Ms... asking them if I'm not home and he is home to make sure that they monitor him."

CONCLUSION

- Qualitative analyses suggest caregivers were highly satisfied with the intervention
- Intervention satisfaction may indicate efficacy and cultural relevance for caregivers of youth with T1D
- Future research informed by the results should explore implementation in clinical settings

PUBLIC HEALTH IMPLICATIONS

- eHealth interventions provide numerous advantages over traditional behavioral health interventions:
 - Fewer barriers to access
 - Lower cost
 - Less training needed to administer
- Higher accessibility can improve reach of an intervention, which is important to improving population impact