Trends in Internet Safety Education by Healthcare Providers

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ABSTRACT

Introduction. The purpose of this study was to explore healthcare provider training, comfort, and provision of internet safety counseling. Prior research has demonstrated increased parental concern regarding the pervasive access to the internet by children, including the potential impacts of risky internet behavior and adverse media exposure.

Methods. A self-reported survey was provided to a convenience sample of 31 healthcare providers during a mental health training seminar. Responses were analyzed using descriptive statistics.

Results. Internet safety counseling, especially regarding risky online behavior, was not a focal point of provider-patient interaction in the sample population. This finding was reinforced with more than half of the respondents indicating that they infrequently or never provide internet safety counseling (n = 17, 56%). While research has placed an emphasis on the importance of discussing the risks of exposure to violence, drugs, and sexually explicit media online, this study found that the topics most often discussed were setting time limits (77%), limiting access to media devices (67%), and supervising internet use (50%). This may be due in part to the fact that most respondents (n = 17, 57%) reported never receiving training on internet safety counseling.

Conclusions. Overall, significant deficits were identified in internet safety counseling training for professionals and provision of education for families. These finding were inconsistent with the American Academy of Pediatrics recommendations around media use counseling and a point of urgent concern given the increasing time spent on media devices, particularly during the COVID pandemic.
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INTRODUCTION

Internet access is nearly ubiquitous to American youth with access becoming virtually unlimited through mobile devices. The COVID pandemic has encouraged social distancing, and as a result, children's access to the internet is becoming increasingly pervasive. As of 2015, 92% of adolescents go online daily.[1,2] Approximately 75% of adolescents own a smart phone with 25% reporting they are online "almost constantly". In addition, 76% of adolescents maintain at least one social media profile. This prevalence is not only relevant in adolescent youth. Nearly all homes with small children (98%) own a mobile device, an increase from 75% in 2013 and 52% in 2011.[3] Further, 50% of five-year-old children go online daily and nearly 75% of four-year-old children have their own mobile device.[4,5] Although data were lacking on media use during the COVID pandemic, these prior statistics supported the American Academy of Child and Adolescent Psychiatry's (AACAP) concern that quarantined youth have unprecedented access to potentially harmful media content and that risk needs to be mitigated.[6]

Parents were concerned about potential adverse impacts of the internet on their children, most notably the impact of exposure to violent and sexual content.[7] Parental concerns were placed appropriately given research has shown poor outcomes of child exposure to risky behaviors. Specifically, children who consume media rich in alcohol advertisements were more likely to initiate use.[8-10] The same influential effect has been shown for sexually explicit media, including pornography.[11,12] These risks can be applied to other online safety concerns such as cyberbullying and increased risk of suicidal ideation.[13] To mitigate these risks, trusted adults need to engage in conversation with youth emphasizing media safety.[14,15] Taken together, parental mediation of media use has been shown to decrease risky behaviors.[16,17] More than ever, parents should be intentional about helping youth develop positive media habits. This can be done by modeling healthy behaviors, setting limits, and co-viewing.[7]

In addition to parents, healthcare providers play an important role in delivering internet safety education to youth.[15,18,19] Parents trust healthcare providers to provide appropriate recommendations for the health and well-being of their children. The American Academy of Pediatrics (AAP) has released a policy statement, "Media Use in School-Aged Children and Adolescents", outlining best practices for parents and pediatric healthcare providers.[18] This statement included information on the AAP's Family Media Plan, which can be an asset to parents during quarantine as well as non-quarantine times. Healthcare providers have a unique opportunity to support parents in providing resources and anticipatory guidance on internet safety. Despite this policy statement, only one in five parents were aware of the AAP's recommendation, indicating a gap in communication between parents and pediatric healthcare providers. Although pediatricians have been tasked with educating parents on this topic, to what extent this happens remained unclear.

Three study objectives were investigated:

1. To explore the extent and type of counseling provided by healthcare providers on internet safety.
2. To explore the type and extent of training that healthcare providers have received on internet safety, their comfort level, and barriers to providing counseling.
3. To determine if internet safety counseling differs between provider demographic groups.

METHODS

Prior to engaging in the study, Institutional Review Board approval was obtained through University of Kansas School of Medicine-Wichita Human Subjects Committee. An anonymous, self-reported, 14-item survey was developed to capture information related to healthcare provider demographics, training, and experience with internet safety counseling. Prior to use, the survey was reviewed by an expert panel for readability.

Healthcare providers attending a local mental health training seminar in late 2018 were asked to participate in this study. Participation was voluntary, informed consent was obtained, and no incentives were

provided. Participants included community and academic physicians, resident physicians, and physician extenders (i.e., nurse practitioners, physician assistants) who provide primary care to children. Non-practicing healthcare providers and providers who do not serve children were excluded from the study.

Data were entered into the encrypted and HIPAA compliant REDCap® online data capture application. Descriptive statistics were calculated from the database.

RESULTS

Of 31 potential participants, a total of 30 (n = 30, 97%) completed the survey. Of the 30 respondents, most were pediatricians (n = 24, 80%), female (n = 21, 70%), and had been in practice for an average of 10.5 years (SD = 9.8; Table 1). The majority of providers characterized their practice as urban (n = 20, 67%), and cared for children in all age ranges (≥ 80%). The mean provider's age was 42.3 years (SD = 9.9). Most providers reported having children of their own, with only 17% (n = 5) reporting they had no children. No statistically significant correlations were found between provider demographics and provider delivery of internet safety counseling.

Most providers (n = 17; 57%) reported having never received training on internet safety counseling. Of those who had received training (n = 13; 43%), independent study and informal training were most common, followed by in-person lectures, and online courses (Table 2). Few reported the adequacy of their training as good and none as very good. Regardless of training, few respondents (n = 8; 27%) felt comfortable or very comfortable with their knowledge on internet safety. An equal amount (n = 8; 27%) of providers reported that they felt uncomfortable with their level of knowledge.

The majority (n = 17; 57%) of respondents reported providing internet safety counseling during well child and adolescent visits infrequently or never. When counseling was provided, only 3% (n = 1) waited to initiate counseling until the patients started high school. Topics discussed most often by providers included setting time limits (n = 23; 77%), limiting access to media devices (n = 20; 67%), and supervising internet use (n = 15; 50%; Figure 1). Topics involving avoidance of risky internet behavior were discussed routinely by 37% (n = 11) of respondents and risks of adverse internet exposure were discussed only by 27% (n = 8).

Ninety percent of respondents (n = 27) indicated time constraint as a barrier to providing internet safety counseling, followed by 47% (n = 14) having limited knowledge on the topic, 40% (n = 12) forgetting to provide counseling, and 30% (n = 9) having a lack of resources.

DISCUSSION

The results of this study demonstrated provider training, comfort, and delivery of internet safety counseling were less than optimal with over half of providers never or infrequently providing counseling. Only 20% of providers reported counseling most of the time. Parents have reported internet safety as a top concern, specifically regarding exposure to sexual and violent content, or risky internet behaviors.[3,7] While providers in this study reported discussing risky internet behaviors, the rates of these discussions were at lower frequency than other topics, such as setting time limits. This result illustrated a gap in care, as media topics that parents were most concerned about were being discussed infrequently by their child's healthcare provider.

Table 1. Descriptive demographics of sample population.

	M	SD
Age	42.3	9.9
Years in practice	10.5	9.8
	n	**%**
Gender		
Males	9	30
Females	21	70
Geographic region		
Rural (population < 50K)	9	30
Urban (population > 50K)	20	67
Missing	1	3
Specialty		
Pediatrics	24	80
Family Medicine	5	17
Other	1	3
Age groups seen		
Infants/young children (0 - 5 years)	26	87
School aged (6 - 11 years)	26	87
Adolescents (12 - 17 years)	23	77
Providers as parents		
Infants/young children (0 - 5 years)	9	30
School aged (6 - 11 years)	13	43
Adolescents (12 - 17 years)	12	40
Adult children (18 years)	8	27
None	5	17

The optimal time for introduction of internet safety to children is not known. Nevertheless, many key stakeholders, including parents, adolescents, teachers, and healthcare providers agreed that internet safety counseling should be started at a young age, between six to eight years.[20] However, given the increasing prevalence of very young children accessing the internet regularly,[3-5] it would be prudent for internet safety education to be introduced with the onset of internet use. This study found only 13% of providers initiated conversations about internet safety with the parents of very young children, and 33% start during elementary school.

The AAP has recognized that pediatricians have an important role in providing guidance to patients and families regarding internet safety in their policy statement "Media Use in School-Aged Children and Adolescents".[18] In this statement, the AAP emphasized the development and use of a personalized Family Media Use Plan that considers the child's age, health, temperament, developmental stage, and individual needs. The use of this tool has been encouraged during the COVID pandemic.[20] This study found that the primary barriers to providing internet safety counseling center around time constraints and lack of provider knowledge on the topic. Increasing awareness of the important role providers have in mitigating risks associated with unsafe internet

use may reduce these barriers. Providers should be offered resources and education on adverse media exposure, including ways to initiate discussions with families. Some authors suggested expanding the HEADS (Home; Education/Employment; Activities; Drugs/Depression/Diet; Sex/Suicide/Safety) psychosocial history-taking pneumonic as a useful tool to include elements of media use, thereby assisting providers to engage patients and families on discussions of internet safety.[21,22]

Table 2. Physician training and practice on internet safety counseling.

| Training format	n	%
Independent study	9	30
Informal setting	6	20
In-person lecture	5	17
Online training	4	13
None	17	57
Adequacy of training		
Very good	0	0
Good	4	13
Adequate	7	23
Poor	2	7
Very poor	0	0
Did not receive training	13	43
Missing	4	13
Comfort with knowledge		
Very comfortable	2	7
Comfortable	6	20
Neutral	14	47
Uncomfortable	8	27
Very uncomfortable	0	0
Frequency of practice		
Always	0	0
Most of the time	6	20
Sometimes	7	23
Infrequently	13	43
Never	4	13
Age of initiation of internet safety counseling		
High school	1	3
Middle school	8	27
Elementary school	10	33
Pre-school	3	10
Infant/toddler	1	3
Do not provide internet safety counseling	6	20
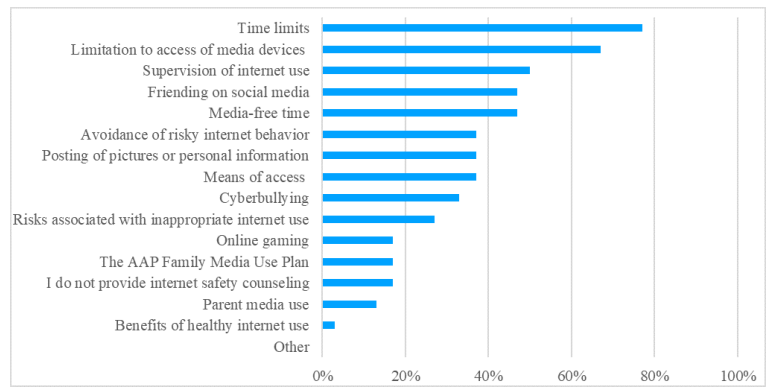
Figure 1. Provider report of topics routinely discussed.

The AAP's policy statement has provided much of the educational background needed for providers to offer internet safety counseling, although some providers would benefit from more structured education modalities.[18] In short, the AAP recommended that families include the following components in their Family Media Use Plan in addition to traditional media recommendations: 1) how media is accessed, 2) where it is accessed, 3) when it is accessed, 4) how long the child is spending on media, 5) who they are interacting with both on- and off-line, 6) what is appropriate to share online, 7) what the child is accessing, 8) risks and avoidance of inappropriate content, 9) consequences of accessing inappropriate content, 10) how to respond to online attacks, and 11) parental role modeling of healthy internet use.

Limitations. This study had several limitations. First, the small sample size may limit the generalizability of these results to the larger pediatric healthcare community, however, sampled providers came from various regions of the state representing diversity in healthcare practices. Second, the study survey did not delineate providers' levels of training (i.e., attending physician, resident physician, or physician extender) which may have affected training experience. In addition, age and level of training also may impact providers' personal level of comfort with the internet and technology in general which may in turn impact their comfort providing internet safety education to patients. Third, the survey was conducted during a voluntary mental health training event which may introduce a sample bias of respondents interested in mental health, including internet safety. Finally, the COVID pandemic emerged during compilation of this manuscript. Although data were collected prior to the pandemic, it was perhaps more valuable given the increased access youth have during this time and supported that internet safety counseling should be a priority. Despite these limitations, provider training, comfort, and delivery of internet safety counseling were insufficient to meet current recommendations.

Future Research. This study examined the trends in internet safety counseling by a small cohort of healthcare providers, practicing in the midwestern part of the United States. The results of the study found that provider training, comfort, and provision of internet safety counseling below optimum. To determine if these trends were reflective of the greater population of healthcare providers caring for children, future studies designed to target a larger, multi-regional study population may qualify the seriousness of this problem better. With a larger sample, future studies may consider exploring the influence of provider demographic characteristics on training and practice of internet safety counseling.

CONCLUSIONS

Healthcare providers have a unique opportunity to support parents and children in providing resources and anticipatory guidance on internet safety. Nonetheless, significant deficits were identified in provider training, comfort, and provision of internet safety counseling for families. Further studies need to be performed to evaluate the significance of these findings on a wider scale. Providers need to be cognizant of their role in mitigating risk associated with unsafe media exposure by offering internet safety counseling to patients and their families.

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