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#### **ORIGINAL ARTICLE**



# Youth Problem Drinking: The Role of Parental and Familial Relationships

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#### **ABSTRACT**

Background: Alcohol use continues to be an important global public health problem and adolescence seems to be a decisive period of time in the development of drinking patterns into adulthood. While most studies concentrate on frequency and amount of alcohol, fewer studies address "problem drinking." Gathering information on youth's alcohol-related behavioral consequences is especially important. Objectives: Current research focuses on gathering information on the background of problem drinking behavior with special attention to parental/familial relationships. Methods: The survey was conducted within the youth health behavior – Makó research project in 2012 (n = 1,981, aged 13-18 years, 50.9% males). Anonymous, self-administered questionnaires contained items on sociodemographics, substance use, and parental/familial relationships (such as parental control and awareness or variables of family environment). Results: Problem drinking (identified in 17.2% of the sample) was more common among males and high school students and those from lower socioeconomic status groups compared to their counterparts. Among the familial/parental variables, negative family interactions, discussion of problems with parents, physical and sexual abuse were positively related to adolescent problem drinking, whereas parental control and awareness, and the positive identification with parents proved to be protective factors. Conclusions/Importance: We conclude that parents and the family were important correlates of adolescents' problem drinking. Our findings suggest that on-going school interventions to prevent the development of problem drinking among youth should include parents and the family.

#### **KEYWORDS**

Adolescence; problem drinking; parental control; parental awareness; family

Alcohol consumption is a severe public health problem globally, particularly excessive alcohol use and problem drinking (Kuntsche et al., 2011; Rehm et al., 2009) Experimentation with alcohol usually occurs during adolescence (Degenhardt et al., 2013; Patrick et al., 2013). In a recent study of the health behavior of school-aged children, Hungary occupies a place in the upper third on a list of those places where citizens drink alcohol at least once a week, and the ranking goes up with age: e.g., at the age of 15, Hungarian children occupy the fifth highest place among the European countries, especially males (18% of girls and 29% of boys) (Inchley et al., 2016). Binge and heavy drinking have several harmful and dangerous consequences for youth, e.g., accidents, suicide attempts, or hazardous sexual activity (Davis, Hendershot, George, Norris, & Heiman, 2007; Windle, 2016). Whereas most previous work describing patterns of drinking in adolescents used a variety of measures including frequency of any use/heavy use/binge drinking or amount of alcohol consumed (Blozis, Feldman, & Conger, 2007; Jackson & Sher, 2005; Tucker, Orlando, & Ellickson, 2003), we know

less about problem drinking among youth, particularly in Hungary.

Generally, problem drinking refers to people who do not meet the criteria of alcohol dependence or alcohol use disorders but they are at high risk to have accidents or experience problems caused by excessive alcohol consumption (Klingemann & Gmel, 2001). This is particularly true among adolescents since the usual measures of frequency or quantity of their alcohol use are not the best choices to accurately define their problem drinker status. A widely used scale that has also been applied among youth (Babor & Higgins-Biddle, 2001; Heron et al., 2012) incorporates, besides frequency and quantity of alcohol, items about not being able to stop drinking, the need for a morning drink, or being injured due to drinking, etc., that is, alcohol-related problems.

Since drinking is a type of substance use in which social influences play an important role, it seems important to describe behaviors and attitudes in youth's social environment. Whereas peer group was definitely found to be a risk factor (Ennett et al., 2008), the role of parents is often equivocal. Therefore, we concentrate on the parental/familial relationships as possible background variables in describing correlates of problem drinking behavior.

Parental factors have a unique role in both the development and prevention of adolescent problem behaviors. Studies support the idea that parents may continue to serve an adaptive and often protective function during adolescence even after the years of childhood (Hair, Moore, Garrett, Ling, & Cleveland, 2008). For example, parental control and awareness of children' free time or alcohol use could be important factors (van der Vorst, Engels, Meeus, Dekovic, & Vermulst, 2006). Gender may also play a role in this relationship since females usually are exposed to higher parental control than their male counterparts (Beck, 2009). Adequate control and awareness could increase the chance to avoid risky situations in terms of alcohol use.

The frequency of family dinners (Sen, 2010), the presence of parents when the students arrive home, open discussions and communication (Sigfúsdóttir, Thorlindsson, Kristjánsson, Roe, & Allegrante, 2009), positive identification and acceptance of the parents' values have all been noted as important protective factors against risky substance use (Gutman, Eccles, Peck, & Malanchuk, 2011).

While some parental and familial variables seem to act as protective mechanisms, others may serve as risk factors, for example, negative family interactions (Ackard, Neumark-Sztainer, Story, & Perry, 2006; Sigfúsdóttir et al., 2009). Child abuse often leads to mental health and substance use problems among children (Chassin, Pitts, & Prost, 2002; Krueger, Markon, Patrick, Benning, & Kramer, 2007). This is particularly true in the case of physical and sexual abuse (Shin, Edwards, & Heeren, 2009; Trickett, Negriff, Ji, & Peckins, 2011).

Given the above review of literature, the main goal of the present study was to describe problem drinking in a sample of Hungarian youth living in a small town and its surrounding area. Namely, we investigated the role of several aspects of parental/familial relationship (e.g., parental monitoring, shared activities and positive/negative family environment, physical/sexual abuse). We investigated the role of these variables as possible correlates of problem drinking using hierarchical multiple regression analysis, where sociodemographics (age, gender, school type, socioeconomic status (SES) self-assessment) were controlled for along with risk and protective factors.

## Methods

# Participants and procedure

The youth health behavior – Makó research project was performed in 2012 in Makó (a small-town of 24,000 inhabitants in South-Hungary) and its surrounding area. All education institutions were involved including high schools (grades 9-12) and primary schools (grades 7-8). While the original sample size of the survey was 2,422 adolescents, with a response rate of 83%, the sample consisted of 2,011 questionnaires. The remaining students likely consisted of youth absent or those youth whose parents did not want them participating in the study. In this analysis, we also removed students who were above the legal drinking age of 18. Thus the final sample size yielded 1,981 students (age range: 13-18 years, mean age: 15.2, S.D.: 1.7; 50.9% males). Most of the students reported being middle-class (58.7%), whereas 2.4% reported being upper class, 15.7% upper-middle class, 3.2% lower class, 18.6% lower-middle class, and the rate of missing values was 1.4%.

After receiving the ethical approval from our IRB, the survey was announced and approved by the school principals. Parents and the students were informed and their informed consent was obtained. Questionnaires were selfadministered, anonymous, and voluntary. In all institutions, the teachers who distributed the questionnaires were informed and trained regarding the research. The code of conduct for health research with data was followed; participation was voluntary and did not bear any significant negative consequences. Data were treated confidentially and individuals were not identifiable from the published data.

## Measures

The first part of the questionnaire contained sociodemographic variables/controls that included: gender (1 =male), age (measured in years), school type (1 = highschool), and SES self-assessment using the following categories: (1) lower class; (2) lower-middle class; (3) middle class; (4) upper-middle class; and (5) upper class (Piko & Fitzpatrick, 2007).

To analyze problem drinking behavior, the alcohol use disorders identification test (AUDIT) (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) was applied using the Hungarian version (Gerevich, Bácskai, & Rózsa, 2006). This questionnaire has been used in adolescent populations (Chung et al., 2000; Knight, Sherritt, Harris, Gates, & Chang, 2003). It was pretested with a pilot group of students to evaluate both its understanding and reliability. The assessment consisted of 10 items (e.g., "How often during the last year have you found that you were not able to stop drinking once you had started?," "How often do you have five or more drinks on one occasion?," "Have you or someone else been injured because of your drinking?"). Eight items had four grade scales and the last two items had 1-3 grade scales to estimate the characteristics of the domains of alcohol consumption. The summary score ranged between 0 and 36 and with a usual cut-point of 8 (Kassai-Farkas, 2015). More than 17% of the sample belonged to the problem drinker group that was similar to a previous study (20.8%) with similar age groups (Knight et al., 2003). Although another study from the US reported adolescents' problem drinking using AUDIT smaller cut-points, the mean score of the scale was definitely lower (3.9, S.D.: 5.1) than in our sample (4.8, S.D.: 5.2) (Chung et al., 2000). However, our aim was not setting up a clinical diagnosis but rather to assess what background variables were correlated with youth's problem drinking in the context of a community survey. The scale was reliable with a Cronbach's alpha of 0.83.

Among parental/familial variables, the following ones were measured: parental control and awareness, discussion of problems with parents, presence of parents when the children arrive at home, sexual and physical abuse (Fitzpatrick, 1997; Piko, Fitzpatrick, & Wright, 2005, Search Institute, 1998), having dinner together with the family (Fulkerson et al., 2006), negative family interactions, and positive identification with parents (Furstenberg, Cook, Eccles, & Elder, 1999; Gutman et al., 2011).

Parental control was assessed with the following question: "When you go out to be with your friends, do your parents or guardian set a curfew (tell you when you must be home)?" Responses included: (1) Never; (2) Hardly ever; (3) Sometimes; (4) Most of the time; (5) All of the time. Parental awareness was assessed with a single item: "When you are with your friends how often do your parents know where do you go out?" Responses included: (1) Never; (2) Hardly ever; (3) Sometimes; (4) Most of the time; (5) All of the time. In terms of communication issues, participants were asked: "How often do you talk with your parents or guardians about problems that you have with them or other people?" Responses included: (1) Never; (2) Hardly ever; (3) Sometimes; (4) Most of the time; (5) All of the time. The final variable assessed parent's presence. Responses included: "How often does it happen during weekdays that there is nobody at home when you arrive?" Answers: (1) Never; (2) Rarely; (3) Once a month; (4) Once a week; (5) 2-4 times a week; (6) All of the time. The "family dinner" variable included the frequency of having dinner together with the family and it was measured using a single question: "How often do you eat dinner with your family?" Responses included: (0) Never; (1) Few times; (2) Some of the time; (3) Most of the time; (4) All of the time (Fulkerson et al., 2006). Finally, two items measured physical and sexual abuse in the form of lifetime prevalence: (1) "Have you ever been suffered from a sexual harassment by an older person?" and (2) "Have you ever been abused physically by your parents or any other adults who live with you?" Responses were scored on a 5-grade scale: (1) Never; (2) 1–2 times; (3) Sometimes; (4) Often; (5) Always.

Negative family interactions and positive identification with parents were measured using four (4) item scales from the family management study (Furstenberg et al., 1999; Gutman et al., 2011). We asked the participants the following question in connection with negative family interactions: "During the past month, how often have your parents yelled at you/criticized your ideas/put their needs ahead of your needs/hit you?" Responses included: (1) Never; (2) Once or twice a month; (3) 3 or 4 times a month; (4) A couple of times a week; (5) Almost every day. The scale was moderately reliable with a Cronbach's alpha of 0.66. Positive identification with parents contained four items from the same study (Furstenberg et al., 1999; Gutman et al., 2011). The students were asked: "How close do you feel to your parents?"; "How much do you respect your parents?"; "How much do you want to be the kind of person your parent is when you are an adult?"; "How often do you and your parent do things that you enjoy together?" Responses included: (1) Not at all; (2) Just a little; (3) Quite a bit; (4) A lot. Cronbach's alpha was 0.67.

All the scales and questionnaire items were translated into Hungarian and back translated by bilingual translators, and the majority of them have been applied and adapted to Hungarian adolescent populations in previous studies (Piko et al., 2005; Varga & Piko, 2015).

The statistical analysis was performed by SPSS for MS Windows Release 19.0 with the maximum significance level set to 0.05. Descriptive statistics were analyzed using t-tests and Chi-square tests for detecting differences across gender and school types. Furthermore, multiple linear regression analysis was used to analyze the contributing factors of problem drinking.

#### Results

Table 1 presents descriptive statistics for the independent variables. We examined cross-tabulations by gender (males, females) and school type (primary and high school). Results indicated that females were more likely to discuss problems with their parents most of the time or all the time compared to males (p < .001). In contrast, there were no significant differences by school type. High school students reported their parents were absent when they arrived at home more frequently than middle school students (p < .001). Approximately 14% reported being absolutely alone when they arrived home from school. In the case of parental control, both aspects showed significant relationships (p < .001). Although males had a lower tendency of strong parental control: one-fourth reported lack of control. Nonetheless, primary school

Table 1. Descriptive statistics for the parental/familial variables of problem drinking.

	Total	Cross tabulation by gender		Cross tabulation by school type	
Variable		Male	Female	High school	Primary
Frequency of family dinners					
Never	84	4.3%	4.1%	5.3%	2.4%
Few times	265	12.1%	14.2%	13.9%	12.1%
Some of the time	542	27.5%	26.8%	30.3%	21.5%
Most of the time	676	32.4%	35.2%	33.9%	33.5%
All of the time	438	23.8%	19.6%	16.7%	30.4%
			test - $p > .05$	Chi-square tes	
Being alone at home when arriving		•	,	·	•
Never	271	14.4%	12.5%	11.6%	16.9%
Rarely	707	32.8%	38.8%	33.0%	39.9%
Once a month	73	3.6%	3.5%	3.0%	4.7%
Once a week	209	11.1%	9.7%	10.8%	9.7%
2—4 times a week	489	25.0%	23.9%	27.6%	19.1%
All of the time	246	13.0%	11.7%	13.9%	9.6%
7 III 01 III 0	2.0		test - $p > .05$	Chi-square tes	
Discussion of problems with parents			,		,
Never	154	10.3%	4.5%	7.1%	8.8%
Hardly ever	339	20.9%	12.8%	17.4%	15.9%
Sometimes	558	32.3%	23.4%	27.6%	28.5%
Most of the time	553	24.2%	31.2%	29.3%	24.8%
All of the time	397	12.3%	28.1%	18.6%	22.0%
All of the time	371		test - $p < .001$	Chi-square te	
Parental control on free time		em square	100.	e square te	50 p x 105
Never	356	24.3%	10.8%	24.1%	7.5%
Hardly ever	283	16.1%	12.2%	17.8%	8.4%
Sometimes	329	16.9%	16.0%	17.9%	14.4%
Most of the time	424	19.1%	24.0%	20.1%	23.5%
All of the time	592	23.6%	36.9%	20.1%	46.1%
All of the time	372		test - $p < .001$	Chi-square tes	
Parental awareness		em square	100.	e square tes	, p 1.00.
Never	88	5.3%	3.2%	4.4%	4.4%
Hardly ever	143	9.9%	4.2%	7.3%	7.2%
Sometimes	228	14.2%	8.7%	12.2%	10.6%
Most of the time	618	32.5%	30.1%	32.9%	28.6%
All of the time	898	38.0%	53.8%	43.2%	49.2%
All of the time	070		test - $p < .001$	Chi-square te	
Physical abuse		em square	100.	em square te.	, p > 100
Never	1,629	81.0%	82.2%	81.1%	82.6%
1—2 times	256	14.7%	11.1%	13.1%	12.3%
Sometimes	80	3.5%	4.6%	3.9%	4.2%
Often	22	0.7%	1.6%	1.3%	0.8%
Always	8	0.1%	0.5%	0.0%	0.0%
Mways	O		test - $p < .05$	Chi-square te	
Sexual abuse		2 3quare	F	5quare te.	F
Never	1,906	97.1%	94.3%	95.3%	96.3%
1—2 times	64	2.2%	4.1%	3.4%	2.9%
Sometimes	9	0.1%	0.8%	0.3%	0.7%
Often	2	0.1%	0.1%	0.2%	0.0%
Always	12	0.5%	0.6%	0.8%	0.1%
· ···	· <del>-</del>		test - $p < .05$	Chi-square te	

subjects experienced strong control on their free time by parents, and only 7.5% reported an absence of control. Family dinners were more frequent among primary school students (p < .001). The students' answers varied significantly in the case of parental awareness on free time: Most females, 53.8%, were instructed when they had to arrive home – compared to males (p < .001). In terms of physical abuse and sexual abuse, there was a slight difference (higher values) between females compared to males in both cases (p < .05). In connection with sexual abuse, there were no significant differences in terms of school type. Altogether, 81.2% of the students reported never

experiencing physical abuse and 95.7% never experiencing sexual abuse.

Table 2 presents detailed descriptive statistics for the scales (student t-tests) among the independent variables. Problem drinking (AUDIT) had higher mean scores among males [t (1469) = 5.2 (p < .001)] and high school students [t (1480) = 9.7 (p < .001)]. High school students reported higher scores on the scale of negative family interactions [t (1943) = 3.0 (p < .01)] but lower scores on the positive identification with parents scale [t (1922) = -7.5 (p < .001)]; there were no significant differences between gender groups (p > .05).

Table 2. Descriptive statistics for the problems drinking scale and parent/family-related scales (student t-tests).

Scale	High school ( $n = 1,132$ ) Mean (SD)	Primary school ( $n = 742$ ) Mean (SD)	Male (n = 947) Mean (SD)	Female ( <i>n</i> = 913) Mean (SD)
Problem drinking	5.6(5.4)	2.6(3.8)	5.5(5.6)	4.1(4.6)
t-value (significance)	t(1,480) =	9.7 (p < .001)	t(1,469) =	5.2 (p < .001)
Negative family interactions scale	6.4 (2.6)	6.0 (2.3)	6.2 (2.3)	6.3 (2.5)
t-value (significance)	t(1,943) = 3.0 (p < .01)		t(1,928) = -1.2 (p > .05)	
Positive identification with parents scale	12.6 (2.8)	13.5 (2.7)	13.0 (2.8)	12.9 (2.8)
t-value (significance)	t(1,922) = -7.5 (p < .001)		t(1,907) = -0.11 (p > .05)	

Note: Using a cut-point of 8: 17.2% of the sample belonged to the problem drinker group.

Table 3 presents the results of hierarchical regression analysis (enter type) for adolescent problem drinking (as dependent variable) including familial and parental factors (as independent variables). In Model 1: sociodemographics were included, in Model 2: familial/parental variables were also added. In Model 1: among sociodemographics, age, gender (male), school type (high school student) were significant contributors; in Model 2: SES self-assessment also became significant. Among the parental/familial variables, besides physical ( $\beta = 0.09$ , p < .01) and sexual abuse ( $\beta = 0.13$ , p < .001), negative family interaction ( $\beta = 0.13, p < .001$ ), and discussion of problems with adults also showed a positive association with adolescent problem drinking ( $\beta = 0.08$ , p < 0.01). Parental control ( $\beta = -0.14$ , p < .001) and awareness  $(\beta = -0.17, p < .001)$  as well as positive identification with parents ( $\beta = -0.08$ , p < .05), on the other hand, were significant, negative contributors. Frequency of family dinners and being alone at home when arriving did not reveal any significant relationships. These independent variables explained 12% (Model 1) and 27% (Model 2) of the variances.

Table 3. Multiple linear regression models for adolescents' problem drinking.

Independent variables $(eta)$				
	Model 1	Model 2		
Sociodemographic variables				
Age	0.23***	0.15***		
Gender (male $=$ 1)	$-0.13^{***}$	- 0.11***		
School type (high school $= 1$ )	$-0.12^{***}$	- 0.12***		
Socioeconomic status (SES self-assessment)	-0.02	$-0.06^*$		
Familial/parental variables				
Frequency of family dinners		<b>- 0.05</b>		
Being alone at home when arriving		0.03		
Discussion of problems with parents		0.08**		
Parental control on free time		- 0.14 · · ·		
Parental awareness		- 0.17 <sup>***</sup>		
Physical abuse		0.09**		
Sexual abuse		0.13***		
Negative family interactions		0.13***		
Positive identification with parents		$-0.08^{*}$		
Constant	-0.48	4.725 <sup>*</sup>		
$R^2$	0.12	0.27		
$\Delta R^2$ (F-change)		0.15* (30.5)***		

Standardized regression coefficients. Enter method was used. \*p < .05 \*\*p <.01 \*\*\* *p* < .001.

Table 4. Collinearity diagnostics of the multiple linear regression analysis for adolescents' problem drinking.

	Collinearity	Collinearity statistics	
Model 1	Tolerance	VIF	
Constants			
Age	0.651	1.536	
Gender	0.934	1.071	
School type	0.656	1.524	
Socioeconomic status	0.955	1.047	
Model 2			
Age	0.545	1.836	
Gender	0.818	1.223	
School type	0.634	1.576	
Socioeconomic status	0.893	1.120	
Frequency of family dinners	0.790	1.266	
Being alone at home when arriving	0.942	1.062	
Discussion of problems with parents	0.696	1.436	
Parental control on free time	0.700	1.428	
Parental awareness	0.745	1.341	
Physical abuse	0.790	1.266	
Sexual abuse	0.915	1.093	
Negative family interactions	0.769	1.301	
Positive identification with parents	0.647	1.547	

VIF = Variance inflation factor.

The reliability of the model was further examined with VIF (variance inflation factor) — indices and tolerance values. In Table 4, the VIF values are within the acceptable VIF range which support the overall reliability of our model (all of them are below 2).

#### **Discussion**

Alcohol use is the most frequent legal drug that is widely accepted across many cultures (Rehm et al., 2009). There is a need for more research regarding the detection of problem drinking, particularly among adolescents, to better understand its correlates at an early age. Since social influences play an important role in the development of alcohol use during adolescence (Ennett et al., 2008; Patrick et al., 2013), we focused our examination of factors on parental and familial relationships, both risky and protective factors. This is particularly important since the role of parents and the family in adolescent problem behavior is rather controversial (Piko et al., 2005). Our findings confirm that problem drinking was presented as early as primary school, grades 7-8, aged around 13-14 years, although the problem drinking scores were definitely higher among high school students and boys as found in previous studies (Inchley et al., 2016). In addition, higher SES may contribute to lower level of problem drinking among youth, while it was not the case in terms of social drinking in general (Piko & Fitzpatrick, 2007).

We examined the role of a set of variables measuring parental and familial relationships that had been previously found to be helpful in developing effective prevention strategies (van der Vorst et al., 2006). Different aspects of parental control and awareness were previously analyzed in connection with problem behaviors by several studies (e.g., Beck, 2009; van der Vorst et al., 2006). Similar to previous research, parental control and awareness were found to serve as protective factors against adolescent problem drinking. On the other hand, discussion of problems with parents alone did not serve as a protection. We assumed that it did not refer to the success of the conversation since adolescents may think it a constraint that impinges on their autonomy (Piko et al., 2005). Frequency of family dinners and being alone at home when arriving, although might have protective potential according to some previous studies (Sen, 2010; Sigfúsdóttir et al., 2009) did not show a significant role, perhaps because adolescents in this age group did not need this type of togetherness any more. Whereas negative family interactions contributed to youth problem drinking, the positive identification with parents acted as a protective factor. All these findings suggest that parents and the family, although often less obvious, are still important correlates of adolescents' problem behavior (compared with children), similar to previous studies (Hair et al., 2008).

Previous studies revealed that child maltreatment might lead to problem behavior and problem drinking among youth (Chassin et al., 2002; Krueger et al., 2007; Shin et al., 2009; Trickett et al., 2011). Our findings support this association: both physical and sexual abuse was associated related to adolescent problem drinking. We must note here, however, that both forms of abuse were relatively rare among the study population. These results suggest that problem drinking may be part of youth problem behavior syndrome stemming from the adolescencerelated problems (Siciliano et al., 2013).

We conclude that problem drinking could be justified in an adolescent population not only among adults, and there is no doubt about the risks of problem drinking as early as the final years of primary school. Although most associations were similar to previous research results, the wide spectrum of variables measured and the large sample size made it possible to get a more detailed picture of the complexities regarding adolescent problem drinking.

In total, our study provides further insights into adolescent problem drinking in which familial/parental factors may be playing key roles. Despite these strengths, some limitations should also be noted. Our research was cross-sectional; therefore, cause-and-effect relationships are severely limited. In addition, regression coefficients, although significantly related to the dependent variable, were relatively small in size. Although AUDIT has been validated and widely used in the Hungarian population, this is the first time we used it in a Hungarian adolescent population; therefore, further validation studies are needed in the future. We must also note here that the cut-of point we used was based on a standard recommendation but without a clinical control, these data are only informative and not suitable for a diagnosis, particularly because all data were based on student self-report. Some of the dependent variables were ordinal and not interval-type; however, our concerns with a significant reduction of information by recoding or dichotomizing them preventing us from changing their original form. Finally, we certainly acknowledge that these findings are not generalizable beyond an adolescent population in a small-Hungarian town; there may be more risky behaviors found among adolescent populations in larger metropolitan areas.

Despite these limitations, we believe that these background variables that have been identified play an important role in understanding adolescent problem drinking. Our findings suggest that in the development of ongoing school interventions to prevent the development of problem drinking among youth, parents and the family remain an important part of the equation to address this growing problem.

### **Declaration of interest**

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

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