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## Parental Knowledge and Attitudes About Universal Lipid Screening Among Children Aged 9 to 11 Years

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### Abstract

Nationally recommended universal lipid screening (ULS) in children aged 9 to 11 years is low. Little is known about parents' understanding of screening. We conducted a survey exploring parental knowledge and attitudes regarding ULS. Of 91 parent respondents, 81.3% were female, 69.2% were non-Hispanic white, 90.1% had a college/graduate degree, and 63.7% had a family history of abnormal cholesterol. Overall, 45.5% agreed that ULS should be done for all children, 30.8% disagreed, and 23.1% were unsure. Parents' support for ULS was significantly associated with their attitudes toward screening rather than their knowledge about cholesterol, family history of cardiovascular disease or abnormal cholesterol, age, race/ethnicity, or gender. Parents were less likely to agree that ULS should be done if they thought that cholesterol screening should be done based on a child's health or family history rather than for all children ( $P < .001$ ), or if they thought that cholesterol screening was unnecessary ( $P < .001$ ).

### Keywords

cholesterol; universal screening; survey; pediatric

### Background

In 2011, the National Heart, Lung, and Blood Institute (NHLBI) and the American Academy of Pediatrics (AAP) endorsed *universal* lipid screening (ULS) for *all* children aged 9 to 11 years<sup>1</sup> in contrast to the targeted, risk-based approach previously recommended.<sup>2</sup> These guidelines have been controversial in the pediatric community<sup>3–5</sup> and complicated by competing guidelines issued by the US Preventive Services Task Force in 2016 that recommended *against* universal cholesterol screening because “the current evidence is insufficient to assess the balance of benefits and harms of screening for lipid disorders in children.”<sup>6</sup>

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#### Author Contributions

LK, LE, HW and KR contributed to the conception and study design. LK and TL analyzed the data. LK drafted the initial manuscript. All authors critically reviewed and approved the final manuscript.

#### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Despite the NHLBI/AAP recommendations for universal screening, rates of cholesterol screening among children remain low. Prior to 2011, large epidemiological studies showed that only 3.4%<sup>7</sup> to 9.8%<sup>8</sup> of children had cholesterol testing performed. After the 2011 guidelines, one study in a primary care clinic showed the rate increased to 27.2% of 9- to 11-year-old children.<sup>9</sup> Two recent studies have demonstrated significant improvement in ULS laboratory ordering in 9- to 11-year-old children by providers after clinic-based, educational, and electronic medical record interventions. The first study showed improvement in laboratory test ordering rates from 8.6% preintervention to 50.0% postintervention<sup>10</sup> and from 6.2% to 84.8% in the other study.<sup>11</sup> However, the cholesterol screening *completion* rates after a test was ordered was only 69.6% in the first study<sup>10</sup> and only 56.7% in the second study,<sup>11</sup> suggesting that there were additional logistical or attitudinal barriers to completion. A recent study of a school-based universal cardiovascular screening program in middle school children concluded that more research is needed to understand why parents may or may not want their children screened.<sup>12</sup> The objective of this study was to determine parental knowledge, attitudes, and barriers related to ULS among children aged 9 to 11 years.

## Methods

We conducted a convenience survey of parents whose children had been seen for a 9-, 10-, or 11-year-old well-child check at a large academic pediatrics clinic between January 2014 and September 2017. A diverse group of more than 18 000 patients are seen annually by the 14 full- and part-time faculty, pediatric residents, and medical students at 2 clinic sites. A convenience sample of parent survey respondents were recruited in early 2018 via mailed letter, electronic health record (EHR) message, and during clinic visits. Parents were only contacted one time by mail/EHR. Informed consent was obtained by requiring participants to consent before completing the survey; separate written consent was not obtained for the anonymous survey. Parents had the option to complete the voluntary, anonymous survey on paper or the online platform in REDCAP (Research Electronic Data Capture). All paper survey responses were entered into the REDCAP database and merged with the existing online data. This study was approved by the UCSD Institutional Review Board.

The 43-item survey assessed knowledge and attitudes about cholesterol screening in children. Specifically, questions inquired about parental (1) agreement with ULS for all children and for his/her own child; (2) attitudes about potential benefits, risks, and barriers of ULS; (3) knowledge about cardiovascular disease (CVD) and cholesterol; (4) experience with ULS for his/her child; and (5) demographic characteristics (age, sex, race/ethnicity, education, and family history of CVD or abnormal cholesterol). The survey items were developed based on formative phone interviews with 13 parents about their knowledge, attitudes, and barriers toward ULS. Common themes from the phone interviews were developed into specific survey items in which parents could report how much they agree or disagree with each statement (5-point Likert-type scale). The survey was pilot-tested for clarity, modifications made, and then made available in English.

Descriptive statistics of parent agreement with ULS, attitudes, barriers, knowledge, experience with ULS, and characteristics were summarized as means and frequencies. For

analyses, responses from the 5-point Likert-type scale were trichotomized into “strongly agree/agree,” “neutral,” and “disagree/strongly disagree.” Parents were categorized into 3 groups: (1) agree with ULS, (2) do not agree with ULS, or (3) not sure. Chi-square tests were used to compare how these groups differed in attitudes, knowledge, experience with ULS, and characteristics. Logistic regression was used to assess which attitudes were most associated with parental agreement with ULS, controlling for parent characteristics and knowledge.<sup>13</sup> Firth’s bias reduction approach was used to address data separation with inference based on likelihood ratio to improve inference validity for a relatively small sample size.<sup>13</sup> All analyses were conducted using R statistical software.<sup>14,15</sup>

## Results

### Survey Respondents

Of the 995 parents who were sent a survey, a convenience sample of 91 parents completed the survey (9.1%). The majority (81.3%) were female, 69.2% were non-Hispanic white, 90.1% had a college or graduate degree, 63.7% had a family history of abnormal cholesterol, and 68.1% had a family history of CVD. Approximately half of parents had experience with ULS in their children; 45.1% reported that the test had been offered or recommended by their pediatrician, and 75.6% of these parents to whom the test was offered reported that the test was completed (Table 1).

### Knowledge, Attitudes, and Barriers

Parents were knowledgeable about the relationship between CVD and cholesterol, with 80% of parents accurately acknowledging the contribution of nutrition, exercise, and genetics to abnormal cholesterol levels (Table 2). However, 57.2% of parents “strongly disagreed” or “disagreed” with the statement, “I know a lot about cholesterol screening in children” (Table 2).

Overall, parents were divided in their support for ULS of children aged 9 to 11 years; 45.1% of parents agreed that ULS should be done for all children, 30.8% disagreed, and 23.1% were unsure. Specific parental attitudes to ULS are listed in Table 2. While most (77%) parents were not concerned about cholesterol in their children, about half (50.6%) would like to know their child’s levels and 67% would feel reassured by normal levels. Almost half (48.4%) of parents agreed that lipid screening in children should be done based on a child’s health or family history rather than for all children (Table 2).

About one third (31.9%) of parents reported that there were “no barriers” to lipid screening for their child. Among the remaining two thirds (68.1%) of parents who recognized barriers, the top 3 ranked barriers were the following: (1) not believing that ULS is necessary, (2) not knowing enough about ULS in children, and (3) having a child who is afraid of phlebotomy. Other lower ranked barriers included the cost of screening, time involved for screening, not wanting to label a child with having abnormal cholesterol, and not knowing what to do if a child has an abnormal cholesterol level.

## Factors Associated With Parental Support for ULS

To better understand the underlying reasons why some parents support ULS while others do not, associations between parental agreement with ULS (or not) and parental knowledge, attitudes, characteristics, and experience with ULS were examined. The associations between parental agreement with ULS and parent attitudes are listed in Table 3. Parents who agreed that ULS should be done were more likely to not have concerns about time, costs, or phlebotomy in their child. Parents were less likely to agree that ULS should be done if they thought that cholesterol screening should be done based on a child's health or family history rather than for all children ( $P < .001$ ), or if they thought that cholesterol screening was unnecessary ( $P < .001$ ). Parental knowledge about CVD and cholesterol, family history of abnormal cholesterol or CVD, and parent characteristics including age, gender, and race/ethnicity were not associated with agreement for or against ULS. Parents with less educational attainment were more likely to support ULS ( $P = .045$ ). Parents who agreed with ULS were more likely to report that their child had completed cholesterol screening ( $P = .004$ ).

To determine which parental attitudes were highly associated with parents' support for ULS, a multivariate analysis was conducted. Two parental attitudes remained significant. First, parents who were not sure about screening their own child were significantly less likely to agree that ULS should be done for all children compared with parents who either agreed or disagreed with screening their own child (odds ratio = 0.020, confidence interval = 0.00022–0.0175,  $P < .001$ ). Second, parents who strongly agreed, agreed, or were not sure that screening should only be done "based on a child's health or family history rather than for all children" were also significantly less likely to agree that ULS should be done for all children compared with parents who strongly disagreed or disagreed with this statement (odds ratio = 0.015, confidence interval = 0.00049–0.0234,  $P = .03$ ).

## Discussion

Our study revealed that parents were divided in their support for ULS in 9- to 11-year-old children with less than half agreeing that ULS should be done for all children. We found that parents' support for ULS was based on their attitudes toward screening rather than their knowledge about cholesterol, family history of CVD or abnormal cholesterol, age, race/ethnicity, or gender. We also confirmed that parents who agreed that ULS should be done were more likely to report completing lipid screening in their own child.

This is the first study to examine parental knowledge, attitudes, and barriers to ULS since the 2011 publication of the NHLBI guidelines. Nevertheless, studies from the 1990s also found that parental behaviors regarding cholesterol screening in their children were related to their attitudes rather than family history of CVD or abnormal cholesterol. In a predominantly white, middle-class clinic in the southeastern United States, parents of 2- to 15-year-old children with an abnormal cholesterol test were more likely to return for their follow-up visit if the child's cholesterol level was higher, they expressed more concerns about their child's health, and they agreed with the appropriateness of follow-up.<sup>16</sup> A positive family history of CVD or abnormal cholesterol was not associated with follow-up.<sup>16</sup> In a multistate survey of 784 parents whose child had an abnormal cholesterol screen, only

20% of parents followed-up with the child's physician; a family history of CVD was not a factor associated with follow-up.<sup>17</sup>

Parents' support for or against ULS may reflect the indecisive attitudes of US pediatricians toward the NHLBI/AAP recommendation for universal screening. A 2013/2014 national survey of US pediatricians revealed that only 26% of pediatricians were familiar with the 2011 guidelines, only 30% reported conducting universal screening for 9- to 11-year-old children, and only 55% agreed with universal screening of children.<sup>18</sup> Parents may be less likely to agree to ULS in their child if their own pediatrician is hesitant about screening.

While this study highlights the importance of parental attitudes around ULS and its impact on ULS completion, this study has several limitations. First, this was a convenience survey rather than a representative survey, which raises concerns that the results are potentially biased. Second, a lack of diversity, particularly, the overrepresentation of educated, white female respondents, means that this study may not be generalizable to most US clinic populations. Since the survey was only available in English, parents who speak Spanish or other languages were not represented. Additional efforts to determine the views of parents from different backgrounds should be explored to better understand parental views of ULS. Third, respondents may have also been subject to recall bias when asked about their experience with ULS in their own child. Nevertheless, responses were anonymous, which likely decreased any social desirability bias in the responses.

The results of our study indicate that parental attitudes about screening and concerns about blood draws may be more important than family history or knowledge as facilitators or barriers to ULS in 9- to 11-year-old children. However, we interpret these results as a starting point for understanding and exploring parents' support for and barriers to ULS in their children. Any intervention that seeks to promote ULS in children or to increase parent compliance with ULS among their 9- to 11-year-old children will likely need to further explore and address parental attitudes toward screening, to better explain to parents why cholesterol screening should be done *at this age*, and to lessen anxiety associated with blood draws. Additional studies about parental knowledge and attitudes about ULS in a larger, more diverse population are needed.

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## References

1. Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents; National Heart, Lung, and Blood Institute. Expert panel on integrated guidelines

for cardiovascular health and risk reduction in children and adolescents: summary report. *Pediatrics*. 2011;128(suppl 5):S213–S256. [PubMed: 22084329]

2. Daniels SR, Greer FR; Committee on Nutrition. Lipid screening and cardiovascular health in childhood. *Pediatrics*. 2008;122:198–208. [PubMed: 18596007]
3. Newman TB, Pletcher MJ, Hulley SB. Overly aggressive new guidelines for lipid screening in children: evidence of a broken process. *Pediatrics*. 2012;130:349–352. [PubMed: 22826571]
4. Schroeder AR, Redberg RF. Cholesterol screening and management in children and young adults should start early—NO! *Clin Cardiol*. 2012;35:665–668. [PubMed: 23161509]
5. de Ferranti SD, Daniels SR, Gillman M, Vernacchio L, Plutzky J, Baker AL. NHLBI Integrated Guidelines on Cardiovascular Disease Risk Reduction: can we clarify the controversy about cholesterol screening and treatment in childhood? *Clin Chem*. 2012;58:1626–1630. [PubMed: 22730451]
6. US Preventive Services Task Force; Bibbins-Domingo K, Grossman DC, et al. Screening for lipid disorders in children and adolescents: US Preventive Services Task Force recommendation statement. *JAMA*. 2016;316:625–633. [PubMed: 27532917]
7. Vinci SR, Rifas-Shiman SL, Cheng JK, Mannic RC, Gillman MW, de Ferranti SD. Cholesterol testing among children and adolescents during health visits. *JAMA*. 2014;311:1804–1807. [PubMed: 24794376]
8. Margolis KL, Greenspan LC, Trower NK, et al. Lipid screening in children and adolescents in community practice: 2007–2010. *Circ Cardiovasc Qual Outcomes*. 2014;7:718–726. [PubMed: 25160839]
9. Valle CW, Binns HJ, Quadri-Sheriff M, Benuck I, Patel A. Physicians' lack of adherence to National Heart, Lungs, and Blood Institute guidelines for pediatric lipid screening. *Clin Pediatr (Phila)*. 2015;54:1200–1205. [PubMed: 25813383]
10. DeSantes KD, Dodge A, Eickhoff J, Peterson AL. Improving universal pediatric lipid screening. *J Pediatr*. 2017;188:87–90. [PubMed: 28595766]
11. Kern L, Crow J, Williams CB, Boies E, Gahagan S, Rhee KE. Increasing universal lipid screening among 9- to 11-year-old children through a quality improvement initiative. *Clin Pediatr (Phila)*. 2017;56:640–647. [PubMed: 27663965]
12. Siegel RM, Strasser K, Faust M, Hudgens M, Robison D, Urbina EM. A pilot study of school-based comprehensive cardiovascular screening in middle school children. *J Pediatr*. 2019;208:287–289. [PubMed: 30885644]
13. Tang W, He H, Tu XM. *Applied Categorical and Count Data Analysis*. Boca Raton, FL: Chapman and Hall/CRC; 2012.
14. Heinze G, Schemper M. A solution to the problem of separation in logistic regression. *Stat Med*. 2002;21:2409–2419. [PubMed: 12210625]
15. Yang Y, Zou H. A fast unified algorithm for computing group-lasso penalized learning problems. *Stat Comput*. 2015;25:1129–1141.
16. Lannon CM, Earp J. Parents' behavior and attitudes toward screening children for high serum cholesterol levels. *Pediatrics*. 1992;89(6 pt 2):1159–1163. [PubMed: 1594369]
17. Nader PR, Yang M, Luepker RV, et al. Parent and physician response to children's cholesterol values of 200 mg/dL or greater: the Child and Adolescent Trial for cardiovascular health experiment. *Pediatrics*. 1997;99:E5.
18. de Ferranti SD, Rodday AM, Parsons SK, et al. Cholesterol screening and treatment practices and preferences: a survey of United States pediatricians. *J Pediatr*. 2017;185:99–105.e2. [PubMed: 28209292]

**Table 1.**

## Parent Characteristics.

Characteristic	Overall (N = 91), n (%)
Age	
30–39 years	10 (11.0%)
40–49 years	54 (59.3%)
50 years	27 (29.7%)
Gender	
Female	74 (81.3%)
Male	15 (16.5%)
Race/ethnicity	
African-American	1 (1.1%)
Asian/Pacific Islander	12 (13.2%)
White, non-Hispanic	63 (69.2%)
White, Hispanic	8 (8.8%)
Other/prefer not to answer	7 (7.7%)
Education attainment	
High school	2 (2.2%)
Some college	5 (5.5%)
College	29 (31.9%)
Post-graduate	53 (58.2%)
Family history (n = 89)	
Abnormal lipids <sup>a</sup>	
Yes	58 (63.7%)
No	22 (24.2%)
Not sure	9 (9.9%)
Cardiovascular disease <sup>b</sup>	
Yes	62 (68.1%)
No	23 (25.3%)
Not sure	4 (4.4%)
Cholesterol screening experience in child	
Test ordered (n = 91)	
Yes	41 (45.1%)
No	28 (30.8%)
Not sure	22 (24.2%)
Test completed (n = 41)	
Yes	31 (75.6%)
No	10 (24.3%)

<sup>a</sup> Abnormal cholesterol level of biological parent, sister, brother, aunt, uncle, and/or grandparent of child.

<sup>b</sup> Cardiovascular disease including heart disease, high blood pressure, or stroke in a biological parent, sister, brother, aunt, uncle, and/or grandparent of child.



**Table 2.**

**Knowledge and Attitudes of Parents.**

	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree
Knowledge (n = 90), n (%)			
Abnormal CLs in children may lead to adult CVD	2 (2.2%)	15 (16.5%)	73 (80.3%)
CLs may be affected by diet	2 (2.2%)	7 (7.7%)	81 (89.0%)
CLs may be affected by exercise	4 (4.4%)	9 (9.9%)	76 (83.5%)
CLs may be genetically determined	1 (1.1%)	7 (7.7%)	82 (90.1%)
Children may appear healthy but have abnormal CL	3 (3.3%)	6 (6.6%)	81 (89.0%)
I know a lot about cholesterol in children	52 (57.2%)	28 (30.8%)	10 (11.0%)
Attitudes (n = 90), n (%)			
I often think about my child's CL	67 (74.4%)	15 (16.7%)	8 (8.9%)
I am worried or concerned about my child's CL	70 (77.8%)	11 (12.1%)	9 (10.0%)
I would like to know my child's CL	21 (23.6%)	22 (24.7%)	46 (51.7%)
My child is too young for cholesterol screening	40 (44.4%)	27 (30.0%)	23 (25.6%)
I do not like to have blood drawn for child	44 (49.4%)	20 (22.5%)	25 (28.1%)
Cholesterol screening costs too much	32 (35.6%)	50 (55.6%)	8 (8.9%)
Cholesterol screening takes too much time	50 (56.8%)	22 (25.0%)	16 (18.2%)
Cholesterol screening should be done based on a child's health or family history rather than done for all children	29 (32.2%)	17 (18.9%)	44 (48.9%)
If my child's CL are normal, I feel reassured	7 (7.9%)	21 (23.6%)	61 (68.5%)
If my child's CL are abnormal, I know what to do	23 (25.6%)	4 (4.4%)	63 (70.0%)
I would like more information about cholesterol screening in children	15 (16.7%)	29 (32.2%)	46 (51.1%)
I think that cholesterol screening is unnecessary for children	43 (48.3%)	28 (31.5%)	18 (20.2%)

Abbreviations: CL, cholesterol level; CVD, cardiovascular disease.

**Table 3.** Association Between Parent Agreement With ULS for All Children and Parental Attitudes.

	Agree With ULS	Not Agree With ULS	Not Sure	P
I think my own child should be screened, n (%)	n = 41	n = 28	n = 21	
Yes	36 (87.8%)	2 (7.1%)	3 (14.3%)	<.001
Not sure	1 (2.4%)	6 (21.4%)	13 (61.9%)	
No	4 (9.8%)	20 (71.4%)	5 (23.8%)	
I often think about my child's CL, n (%)	n = 40	n = 28	n = 21	
Strongly disagree/disagree	27 (67.5%)	24 (85.7%)	16 (76.2%)	.445
Neutral	8 (20.0%)	2 (7.1%)	4 (19.0%)	
Strongly agree/agree	5 (12.5%)	2 (7.1%)	1 (4.8%)	
I am worried or concerned about my child's CL, n (%)	n = 40	n = 28	n = 21	
Strongly disagree/disagree	29 (72.5%)	25 (89.3%)	15 (71.4%)	.414
Neutral	6 (15.0%)	1 (3.6%)	4 (19.0%)	
Strongly agree/agree	5 (12.5%)	2 (7.1%)	2 (9.5%)	
I would like to know my child's CL, n (%)	n = 39	n = 28	n = 21	
Strongly disagree/disagree	1 (2.6%)	15 (53.6%)	5 (23.8%)	<.001
Neutral	7 (17.9%)	8 (28.6%)	7 (33.3%)	
Strongly agree/agree	31 (79.5%)	5 (17.9%)	9 (42.9%)	
My child is too young for cholesterol screening, n (%)	n = 40	n = 28	n = 21	
Strongly disagree/disagree	31 (77.5%)	4 (14.3%)	4 (19.0%)	<.001
Neutral	7 (17.5%)	7 (25.0%)	13 (61.9%)	
Strongly agree/agree	2 (5.0%)	17 (60.7%)	4 (19.1%)	
I do not like to have blood drawn for my child, n (%)	n = 40	n = 28	n = 20	
Strongly disagree/disagree	24 (60.0%)	6 (21.4%)	13 (65.0%)	<.001
Neutral	12 (30.0%)	6 (21.4%)	2 (10.0%)	
Strongly agree/agree	4 (10.0%)	16 (57.1%)	5 (25.0%)	
Cholesterol screening costs too much, n (%)	n = 40	n = 28	n = 21	
Strongly disagree/disagree	21 (52.5%)	6 (21.4%)	4 (19.0%)	.006
Neutral	19 (47.5%)	17 (60.7%)	14 (66.7%)	
Strongly agree/agree	0 (0%)	5 (17.9%)	3 (14.3%)	

	Agree With ULS	Not Agree With ULS	Not Sure	P
Cholesterol screening takes too much time, n (%)	n = 39	n = 27	n = 21	
Strongly disagree/disagree	31 (79.5%)	9 (33.3%)	9 (42.9%)	<b>&lt;.001</b>
Neutral	5 (12.8%)	8 (29.6%)	9 (42.9%)	
Strongly agree/agree	3 (7.7%)	10 (37.0%)	3 (14.3%)	
Cholesterol screening should be done based on a child's health or family history rather than done for all children, n (%)	n = 40	n = 28	n = 21	
Strongly disagree/disagree	27 (67.5%)	1 (3.6%)	0 (0%)	<b>&lt;.001</b>
Neutral	7 (17.5%)	2 (7.1%)	8 (38.1%)	
Strongly agree/agree	6 (15.0%)	25 (89.3%)	13 (61.9%)	
If my child's CL are normal, I feel reassured, n (%)	n = 40	n = 27	n = 21	
Strongly disagree/disagree	4 (10.0%)	3 (11.1%)	0 (0%)	<b>.013</b>
Neutral	5 (12.5%)	12 (44.4%)	4 (19.0%)	
Strongly agree/agree	31 (77.5%)	12 (44.4%)	17 (81.0%)	
If my child's CL are abnormal, I know what to do, n (%)	n = 40	n = 28	n = 21	
Strongly disagree/disagree	9 (22.5%)	5 (17.9%)	8 (38.1%)	.544
Neutral	2 (5.0%)	1 (3.6%)	1 (4.8%)	
Strongly agree/agree	29 (72.5%)	22 (78.6%)	12 (57.1%)	
I would like more information about cholesterol screening in children, n (%)	n = 40	n = 28	n = 21	
Strongly disagree/disagree	4 (10.0%)	11 (39.3%)	0 (0%)	<b>&lt;.001</b>
Neutral	12 (30.0%)	10 (35.7%)	7 (33.3%)	
Strongly agree/agree	24 (58.5%)	7 (25.0%)	14 (66.7%)	
I think that cholesterol screening is unnecessary for children, n (%)	n = 40	n = 27	n = 21	
Strongly disagree/disagree	34 (85.0%)	5 (18.5%)	3 (14.3%)	<b>&lt;.001</b>
Neutral	4 (10.0%)	11 (40.7%)	13 (61.9%)	
Strongly agree/agree	2 (5.0%)	11 (40.7%)	5 (23.8%)	

Abbreviations: ULS, universal lipid screening; CL, cholesterol level.

Note: Bold indicates *p*-value <0.05.