Is Modified Centor Score Sensitive for Diagnosis of Streptococcal Pharyngitis in Indian Children?

PRAWIN KUMAR* AND JAGDISH P GOYAL
Department of Pediatrics, All India Institute of Medical Sciences, Jodhpur, Rajasthan, India.
**drprawin484@gmail.com*

We read with great interest the recent article by Vasudevan, *et al*. [1] published in *Indian Pediatrics*. Some of the aspects of this study require attention as streptococcal pharyngitis is a common condition in routine clinical practice.

The modified Centor score is a validated score for streptococcal pharyngitis from 3 to 76 years of age; children below 3 years of age were neither included in original Centor nor in McIsaac modified Centor score. However, in this study authors had also included children below 3 years of age. Furthermore, in McIsaac modified Centor scoring, the score range from 0 to 3 in ≥45 years, 0 to 4 in age 15-44 years and 0 to 5 in children 3-14 years of age [2]. The maximum score one can get is 5; however, in this study, eight children (5 in culture positive and 3 in culture negative group) had score above 5, which need clarification.

The symptom of 'cough' had the highest sensitivity for streptococcal pharyngitis in this study; however, absence of cough is more valid clinical indicator for the diagnosis of streptococcal pharyngitis in children, and even in modified Centor score one point is being attributed to absence of cough [3,4].

Rhinorrhea is an important symptom for viral upper respiratory tract also infection and authors had also mentioned in methodology that children with such symptoms were excluded from the study. However, fifty children (16 in culture positive and 34 in culture negative group) had rhinorrhea as one of the symptom in this study. A child with current viral infection may have false positive throat culture due to chronic streptococcal colonization [4]. These factors might have been responsible for low positive predictive value for modified Centor score for the diagnosis of streptococcal pharyngitis in this study. It would have been interesting if author could have also investigated for viral etiology in this study.

The authors presented antibiotic sensitive pattern to different antimicrobial agents used in streptococcal pharyngitis, which is very helpful information for clinical practice. However, as Penicillin or first generation cephalosporin is the antimicrobial therapy of choice in streptococcal pharyngitis, it would be informative for general practitioner if author had also provided information about resistance to these antibiotics.

REFERENCES

1. Vasudevan J, Mannu A, Ganvi G. McIsaac modification of centor score in diagnosis of streptococcal pharyngitis and antibiotic sensitivity pattern of beta-hemolytic streptococci in Chennai, India. Indian Pediatr. 2019;56;49-52.
2. McIsaac WJ, Kellner JD, Aufricht P, Vanjaka A, Low DE. Empirical validation of guidelines for the management of pharyngitis in children and adults. JAMA. 2004;291:1587-95.
3. Lindgren C, Neuman MI, Monuteaux MC, Mandl KD, Fine AM. Patient and parent-reported signs and symptoms for group A streptococcal pharyngitis. Pediatrics. 2016; 138:e20160317.
4. Tanz RR. Acute Pharyngitis. *In*: Kliegman RM, Stanton BF, St Jeme JW, Schor NF, Behrman RE, editors. Nelson Textbook of Pediatrics. 1st South Asia ed. New Delhi: Elsevier;2016. p. 2017-21.

AUTHOR'S REPLY

We thank you for your interest in reading and critically appraising our study [1].

1. Children below the age of 3 years were neither included in original Centor or in McIsaac modified Centor Score because acute rheumatic fever is rare in this age group, the classic presentation of streptococcal pharyngitis is uncommon. Selected children <3 years who have other risk factors such as an older sibling with Group A streptococcal infection, are recommended to be considered for testing [2]. A similar study from Belgium included children between 2-16 years [3].
2. We apologize for the inadvertent error in writing the scores as "4-5" instead of 4, and " < 5", instead of 5.
3. Cough did have a high sensitivity for streptococcal pharyngitis in this study and hence was reported as such, even though in modified Centor score one point is being attributed to absence of cough. Therefore, we questioned the utility of Centor Score as a screening tool.
4. Though we excluded children with rhinorrhoea with obvious viral etiology, we could not exclude all children with rhinorrhea. Logistics prevented us from considering investigations to detect viral etiology.

JAISHREE VASUDEVAN
Department of Pediatrics,
Chettinad Hospital and Research Institute,
Kelambakkam, Chennai, India.
drjaishree.vasu@gmail.com

REFERENCES

1. Vasudevan J, Mannu A, Ganvi G. McIsaac modification of centor score in diagnosis of streptococcal pharyngitis and antibiotic sensitivity pattern of beta-hemolytic streptococci in Chennai, India. Indian Pediatr. 2019;56;49-52.
2. Shulman ST, Bisno AL, Clegg HW, Gerber MA, Kaplan EL, Lee G, *et al*. Clinical practice guideline for the diagnosis and management of group A streptococcal pharyngitis: 2012 update by the Infectious Diseases Society of America. Clin Infect Dis. 2012;55:1279-82.
3. Roggen I, van Berlaer G, Gordts F, Pierard D, Hubloue I. Centor criteria in children in a paediatric emergency department: For what it is worth. BMJ. 2013;3:e002712.

Perception of Childhood Development During Early Childhood Care and Education (ECCE) Training of Master Trainers

The government of India approved Early Childhood Care and Education (ECCE) policy in the year 2013 to promote the holistic development of children under six years of age to prepare them for formal schooling [1]. In this effort to introduce ECCE activities in Anganwadi centers, a training module was developed by Ministry of Women and Child Development to train the trainers who would then train Anganwadi workers (AWW) [2,3]. This would enable AWW to plan and conduct ECCE activities for children aged 3 to 6 years. This training of master trainers is conducted over five days, of which four sessions are devoted to instruction on developmental milestones of children aged 0-3 years and 3-6 years; planning early stimulation activities, and early recognition of disability.

We present our experience of first such training of master trainers in the state of Haryana. Six Primary teachers (PRT)/Junior Basic Training (JBT) teachers each from eleven districts of Haryana (Bhiwani, Dadri, Faridabad, Gurugram, Jhajjar, Karnal, Mewat, Palwal, Panipat, Rohtak and Sonepat) were enrolled for the training. They were provided with accommodation, food and full five-day intensive training with daily feedback and revision sessions during their dinner time. This training was funded by the Education Department of State Government of Haryana.

A questionnaire regarding their perception on the need for training in childhood development, early intervention and early recognition of disability was filled by the participants. Of the 66 participants, all except one felt that it would be useful to get trained regarding the development of the child and early recognition of childhood disability. Majority (56; 85%) felt that it would be useful to teach AWWs about normal development. All participants had observed at least a child with a disability in their house or neighborhood. The most common disability that they had encountered included intellectual disability (41, 66%), physical disability (17, 26%), vision impairment (5, 7.5%) and hearing impairment (3,4.5%). Of those diagnosed with a disability, 20 (31%) were picked up early, and rest was unaware whether it was picked early or late. All participants except five believed that it would be good to learn activities related to early stimulation that intend to reduce the burden of disability. Only three participants felt that it might not be useful to teach AWW regarding such 'early intervention' activities. Only seven participants were aware of the existence of District Early Intervention Centres (DEIC) in all district hospitals.

The present observation highlights the enthusiasm of master trainers to learn and teach the AWW on basic principles of childhood development, early stimulation and early recognition of disability in children. We believe this training with the involvement of Pediatricians/ Pediatric Neurologists from various local medical colleges could go a long way in improving the care of children with disability at the grass root level.

ANJALI VERMA AND JAYA SHANKAR KAUSHIK

Department of Pediatrics,
Pt B D Sharma Post Graduate Institute of Medical Sciences,
Rohtak, Haryana, India.
jayashankarkaushik@gmail.com

REFERENCES

1. Early Childhood Children Education. Ministry of Women and Child Development. Government of India. Available from: *http://wcd.nic.in/ecce*. Accessed February 14, 2019.
2. ECCE Training Module for Anganwadi workers. Available from:*http://www.wcd.nic.in/sites/default/files/EEC%20Training%20Module%20for%20Anganwadi%20Workers.pdf*. Accessed February 14, 2019..
3. Preparing Teachers for Early Childhood Care and Education. Available from: *https://www.earlychildhoodworkforce.org/sites/default/files/resources/Preparing_Teacherins_for _Early_Childhood_ care_and_Education.pdf*. Accessed February 14, 2019.