

Is Shared Decision-making the Right Approach for Febrile Infants?

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Approximately 1% to 2% of young infants aged ≤ 60 days will be evaluated for a fever in a primary care office, emergency department, or inpatient setting.¹ Well-appearing febrile young infants have a low but uncertain risk of invasive bacterial infection (ie, bacteremia and/or bacterial meningitis) and therefore frequently undergo extensive diagnostic testing, including lumbar puncture, and are often hospitalized.² This management strategy is associated with iatrogenic risks as well as considerable stress for parents.³ To reduce unnecessary invasive testing, hospitalization, and expectant antibiotic therapy, several algorithms have been developed to stratify febrile infants according to their risk of bacterial infection.⁴ However, these algorithms differ in their age cutoffs, recommendations for cerebrospinal fluid testing, and definitions of “low risk.” Consequently, both the decision to perform a lumbar puncture and to hospitalize a febrile infant may vary significantly based on individual clinician’s risk tolerance or institutional norms.^{1,2} Is it appropriate that rates of lumbar punctures and hospitalizations for febrile infants with equivalent clinical presentations vary between hospitals based on individual physician’s tolerance for risk?

Given that the benefit/harm ratio of lumbar puncture and hospitalization is uncertain for febrile infants at low risk of an invasive bacterial infection, management decisions should incorporate the values and preferences of parents as recommended by the Grading of Recommendations Assessment, Development and Evaluation.⁵ Incorporation of parents’ preferences for management decisions is best made through a shared decision-making (SDM) process, a model endorsed by the American Academy of Pediatrics.⁶ Which raises the question, should clinicians implement SDM with parents of febrile young infants?

TRADITIONAL MODEL OF SDM

SDM requires that the patient (or proxy decision-maker) is fully informed of all available and reasonable options, has the opportunity to vocalize his or her preferences, and reaches a decision in collaboration with the physician. As 1 example of SDM, Elwyn et al⁷ proposed a 3-step model based on “choice, options, and decision talk” that encompass

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these elements. Choice involves the recognition and discussion between the clinician and patient that >1 viable option exists. Option refers to the presentation and description of testing or treatment options, including the potential harms and benefits. Finally, decision talk includes eliciting patient preferences and making a joint decision.

SDM AND FEBRILE YOUNG INFANTS

Unfortunately, there is limited information available on the use of SDM with parents of febrile young infants. We know from a qualitative study that promotion of parental empowerment during the diagnostic testing process is valuable to parents of febrile infants, particularly given the parents' feelings of helplessness and loss of control.³ However, although facilitators and barriers to empowerment of parents have been identified, attitudes and preferences for participation in the decision-making process have not previously been explored. In fact, 1 parent in the aforementioned study acknowledged the challenge of information-sharing in this setting, stating, "When you are sleep deprived, when you are concerned, [and] when you are worried sick and things happen so quick, your head seems to go blank." This quotation highlights the challenge to SDM for febrile young infants but also the opportunity to learn how to effectively implement SDM for clinicians and parents to use in this clinical setting.

IMPLEMENTATION OF SDM FOR FEBRILE YOUNG INFANTS

Several factors raise concerns regarding implementation of SDM in the management of febrile young infants, however. First, the risk of an invasive bacterial infection for a febrile infant varies based on the clinical scenario, and consensus should first be sought on when SDM should be implemented. SDM is the

appropriate model when there are ≥ 2 viable management options. Therefore, although this approach is appropriate for well-appearing infants at low risk for an invasive bacterial infection based on existing algorithms, it would not apply to infants who are ill-appearing or who are at high risk (eg, in the first week of life).⁴ In the latter cases, best practices dictate a specific strategy. Furthermore, although respect for parents' autonomy is an important principle in medicine, pediatricians do have an obligation to treat ill infants even when parents refuse a diagnostic evaluation. Often, however, effective communication that elicits and addresses the parents' concerns will result in a management strategy that is acceptable to both the clinician and the parents.

A second challenge to implementation of SDM for febrile infants is that parents must be adequately informed to effectively participate. There are several clinical scenarios in which the risk of an invasive bacterial infection is low, but residual uncertainty exists as to the precision of this risk estimate (eg, the febrile infant who has a positive result on urinalysis but is otherwise low risk; a low-risk infant in the first month of life).⁴ Given this uncertainty, parents may feel ill-equipped to participate in the decision-making process. Third, the settings in which febrile infants receive care have inherent barriers to SDM. These obstacles include time pressure as well as the lack of a previous therapeutic relationship between the provider and family. Fourth, parents of young infants are exhausted and have significant stress at baseline in caring for a newborn. Stress and anxiety of parents are then magnified in the setting of an unexpected health care visit. It may be a significant burden to expect sleep-deprived, stressed parents to fully contemplate multiple diagnostic testing options, explore their own

values and preferences, and make a joint decision with the clinician.

Although SDM is flexible and viewed as the ideal model for value- or preference-sensitive decisions, optimal implementation of SDM for the management of young infants with fever requires approaches that address the aforementioned challenges. First, clinicians should aim to ensure that parents understand why their values and preferences play a role in management decisions. Second, clinicians should use strategies to make certain that parents are optimally informed despite being fatigued and stressed (both of which can significantly decrease the quality of decision-making) and understand the uncertainty related to risk estimates. Critically, communication of potential diagnoses, risks, testing, and treatment options must be tailored to parents with varying health literacy and who represent a wide range of sociodemographic backgrounds. In addition, across care settings, communication methods should be used that facilitate deliberation of management options while under time pressure with a treating physician with whom parents may have no previous established relationship. Lastly, because clinicians may have concerns about a parent making an independent decision about the management of a febrile infant, it is important to emphasize that key tenets of SDM are that parents are invited to participate in the decision-making process and that clinicians and parents make a joint decision.⁷

Although further research is needed to examine the effect of SDM on outcomes for febrile young infants, implementation of SDM for this population may increase parents' knowledge about the risks and benefits of testing as well as their satisfaction and engagement with the evaluation process. Ultimately, SDM with parents of febrile infants

has the potential to reduce the current unwarranted variation in management by aligning the use of

lumbar puncture and hospitalization with informed parents' values and preferences.

ABBREVIATION

SDM: shared decision-making

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