Teaching Project: Pediatric Fever

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Teaching Project Summary: Pediatric Fever

In children, fevers are a common occurrence and a problematic area for the health care field with 20% of all pediatric emergency room (ER) visits being related to fever (Baker, Monroe, King, 2009). More than half of those visits were low acuity with 3.3% of patients returning to the ER within 72 hours (Baker, et al., 2009). Parental misconception addressing fevers has been documented since 1980 when Schimitt published an article showing parental beliefs of wildly fictional side effects from fevers in children (Purssell, 2009). Purssell goes on to name this fear a "fever phobia" that refers to the "irrational and exaggerated fears that some parent express about the possible outcomes of fever." This phobia contributes to the abuse of the emergency room system, inaccurate belief of what needs medical intervention, along with an inaccurate administration of drug therapy. Further teaching regarding fever management in the pediatric population is greatly needed to lower the number of unnecessary emergency room visits, increase the amount of appropriate medication administration, and create an informed parental population armed with the knowledge to make educated decisions.

Firstly, parents should have an adequate idea of what depicts a high risk versus low risk fever and the temperatures and symptoms associated. With a good understanding of what constitutes a fever, parents will be able to make educated decisions on whether they should take their children to the emergency room versus the pediatrician's, or use at-home over-the-counter (OTC) regimes. Dr. Moran and Dr. Nicholson (2012) published a "traffic light" system (Figure 1) that distinguishes between the low risk, intermediate risk, and high-risk signs and symptoms of fevers in children. This chart makes it easier to identify the signs and symptoms that constitute a legitimate emergency room issue.

The 'traffic light' system

	GREEN (low risk)	AMBER (intermediate risk)	RED (high risk)
Colour	• Normal colour of skin, lips and tongue	• Pallor reported by parent/carer	• Pale/mottled/ashen/blue
Activity	• Responds normally to social cues • Content/smiles • Stays awake or awakens quickly • Strong normal cry/not crying	• Not responding normally to social cues • Wakes only with prolonged stimulation • Decreased activity • No smile	• No response to social cues • Appears ill to a healthcare professional • Does not wake or if roused does not stay awake • Weak, high-pitched or continuous cry
Respiratory		• Nasal flaring • Tachypnoea: RR > 50 breaths/minute, age six to 12 months RR > 40 breaths/minute, age > 12 months • Oxygen saturation ≤ 95% in air • Crackles	• Grunting • Tachypnoea: RR > 60 breaths/minute • Moderate or severe chest in-drawing
Hydration	• Normal skin and eyes • Moist mucous membranes	• Dry mucous membranes • Poor feeding in infants • CRT ≥ three seconds • Reduced urine output	• Reduced skin turgor
Other	• None of the amber or red symptoms or signs	• Fever for ≥ five days • Swelling of a limb or joint • Non-weight bearing/not using an extremity • A new lump > 2cm	• Age zero to three months, temperature ≥ 38ºC • Age three to six months, temperature ≥ 39ºC • Non-blanching rash • Bulging fontanelle • Neck stiffness • Status epilepticus • Focal neurological signs • Focal seizures • Bile-stained vomiting

CRT = capillary refill time; RR = respiratory rate

Figure 1. Traffic light system of fever recognition (Moran & Nicholson, 2012).

Once we determine what constitutes an actual fever that needs medical intervention, parents need to be familiar with accurate treatment of fevers, such as ibuprofen and acetaminophen along with encouraging fluids. One study associated with fevers in the pediatric population showed that 200 children were given an antipyretic drug, with over half the children getting an inaccurate dose (Purssell, 2009). Parents need to be aware of the devastating effects overdosing on certain antipyretics can have, along with how to appropriately administer the medication. In addition, families need to be aware of the items needed to diagnose whether their child is a low, intermediate, or high-risk fever. The most important is a thermometer that is appropriate for their child; for example, a rectal thermometer should typically be used for

children ages two and under in order to get the most accurate reading. Parents need to know proper technique for using the thermometer, along with what range is of concern versus normal. In addition, parents should be encouraged to use their community resources to obtain information and help them with questions, such as their local pharmacist.

Many families think that it is "better to be safe than sorry" regarding their children, which in most instances is very true. However, those individuals also need to take into consideration the fact that bringing their children to the ER to "just get checked out" isn't without its health risks. Emergency rooms are riddled with contagious children vomiting, running around, and playing with communal toys, all within a very confided space for long periods of time. Parents need to make informed decisions based on facts whether or not their child has to go to the emergency room today vs. waiting until tomorrow to get an appointment with their pediatrician. Parents also need to take into consideration how unnecessary visits overload resources and create a lag on the system for those children that do need emergent medical care. Many families don't understand that the ER should be used for nothing else but an emergency situation, or last option. People have abused the system to such a great degree that "fast track" and "minor care" portions of the ER have been established to take some of the workload off of the main treatment area. In addition, "urgent care" and "patient first" facilities have tried to create an intermediate facility between the primary care physicians and the emergency room.

Group of Learners

Additional teaching on how to properly determine medical interventions necessary for fevers in children focused on first time parents, single parent households, teenage parents, and those families who are "frequent fliers" of the minor care or fast track portions of the ER. This target audience was chosen based on their lack of experience in childcare, lack of family support,

or repetitive inappropriate decisions made regarding fevers in the past. We targeted households of those individuals who do not have medical training and are inexperienced and/or ignorant in the ways of medical fever intervention, this knowledge was gained through informal conversations during triage and while in the fact track or minor care areas of the ER. Furthermore, the parent's readiness to learn also dictated whether or not the additional education would be of value. Due to the overwhelming about of families meeting the criteria for teaching, distribution of the teaching material was greatly determined on whether the family had a willingness to learn. This willingness to learn was demonstrated by those parents who were constantly asking questions regarding their child's care, in comparison, for example, to those parents who stayed on their phone the entire doctor's visit.

Standards of Practice and Performance

Nursing standards of practice and performance highlight what responsibilities the nurse has and defines in detail the nursing scope of practice. The AACN Nursing practice specifically identifies the scope of practice for a nurse in regards to educational teaching plans. The AACN Nursing Practice (2008) standard includes a planning, implementing, and educating section that applies to teaching projects. For example, the planning section states, "the plan provides for continuity of care, matching the nurse's competencies with the patient's characteristic". Also the education section states, "The nurse participates in online learning activities to acquire and refine the knowledge and skills needed to care for acutely and critically ill patients and their families". These along with other standards included within the AACN Nursing Practice standards are important because they state that the education and issues discussed within my project are actually apart of my nursing scope of practice; therefore, I am allowed to advocate accurate

treatment of fevers, and give medical advice regarding OTC drugs such as ibuprofen and acetaminophen.

Needs Assessment Strategies

After identifying the scope of the problem and the group of learners, the needs assessment helped to target what the parents of febrile children need to be taught in order to better manage their care. In addition, this needs assessment helped prioritize the material taught and determined the type of teaching methods the families' felt was most helpful. I determined the needs of these parents by randomly selecting the first 25 families who came to CHKD with the primary chief complaint of a fever and were directed to minor care. Initially, I had an individual discussion with each of these 25 parents in which I introduced myself and told them how I am gathering information before conducting a teaching session focused on helping parents treat febrile children. Once I explained about my teaching session I asked each family what their top two questions/concerns with treating a febrile child are. Once I had 50 responses to this discussion, two responses per family using 25 families, I took the top three reoccurring topics and created a questionnaire. With an additional 25 families, matching criteria listed above, I once again introduced myself and how I was gathering research on how to help parents treat fevers; these families were asked to complete the questionnaire honestly and to leave it in the room, where I could collect it when they left, assuming they had no questions. Of the 25 families, three families didn't complete the questionnaire.

This questionnaire (Figure 2) contained the top three reoccurring topics, along with two additional questions; they focused on the type of learning they would benefit most from, along with whether they believed that further teaching would help them manage their children's fevers. While I incorporated each of the three topics into my teaching session, having the parents

determine which between the three is the most important helped me to determine my number one priority. In addition, by asking the parent's how they learn best, I was able to design my teaching plan to accommodate the needs of my learners. The fifth question, regarding whether a teaching plan within a healthcare setting is actually helpful in caring for their child, allowed me to look at whether the parents believed they were being presented trustworthy, worthwhile information.

Treating Children with Fevers

This short questionnaire is to help assess what information within a teaching session would best help parents treat their febrile children.

Which teaching topic do you think would be most beneficial for you when treating your sick child? (please circle one)

a. At what point is their fever serious enough that I should bring my child to the pediatrician's office or the emergency room?

b. What medications and dosages should I use when treating my child's fever at home?

c. What method should I use when taking their temperature?

When learning a new skill, which do you feel is the most helpful teaching method? (please circle one)

a. Discussion

b. Written handouts

c. Demonstration

Do you believe that a free teaching session/demonstration, incorporated with the standard discharge instructions, is a helpful teaching tool that will affect how you treat your child's fever?

a. Yes- a teaching session would help me treat my children

b. No- a teaching session would not help me treat my children

Figure 2. Needs Assessment Questionnaire handed to 25 families

Results of needs assessment

The questionnaire determined that the number one topic that families want to learn more about is "What medications and dosages should I use when treating my child's fever at home?" While I also touched on when it's appropriate to bring their child to see a physician, and the appropriate use of a thermometer, I primarily focused on medication information. This need for more knowledge went along with what I have witnessed and introduced as the nature of the problem; people are unaware of how to treat their children along with not knowing when its appropriate to consult a physician. Question two, focusing on the appropriate teaching method, was answered with a vast majority of people picking "Written handouts" and "Demonstration"; four families picked both. By incorporating written handouts and demonstrations into my teaching plan I feel that I have covered the needs of my learners. The last question on the needs assessment focused on whether these families believed that they would benefit from further teaching. Out of the 22 families who completed the survey, 21 families said, "Yes- a teaching session would help me treat my children." This overall majority lets me know that my learners were prepared for more knowledge in treating their children, that they are willing to learn, and they find the knowledge that I presented them to be a trustworthy source.

Development of Teaching Plan

The needs assessment survey greatly impacted the focus of the instruction and how I approached the planning phase of my teaching session. The development of my teaching session proceeded with a written teaching plan template that defined in detail the objectives, content, presentation, time, resources, method of evaluation, and outcomes (see Appendix A). The needs assessment directed my focus to diagnosing the severity of a fever, appropriate medication administration, when it's appropriate to see a physician, and the correct technique when using a

thermometer; these became my objectives within my teaching plan. In addition, the needs assessment determined that the discussion and demonstration aspects of teaching were most beneficial to my target audience; this aspect of the needs assessment determined my method of presentation. Therefore, the needs assessment determined what I should focus on, my goals/objectives, along with how I should go about teaching it, the method of my presentation.

The time frame was decided to be 20 minutes total, with five minutes spent on each objective. During the teaching plan I realized that due to the fast paced treatment of these "fast track" or "minor care" kids, I was going to have to breakup the session throughout their visit, in contrast to taking 20 minutes before they are discharged. While I had not originally planned on having four separate five-minute sessions I believed it worked out better. Instead of teaching everything right before they are ready to go, I was able to talk to them about the medication as I was dispensing it to the child, along with demonstrating the correct method of gathering a temperature while I was assessing the vital signs of the child. I believe that the four smaller discussions/demonstrations also kept the parents engaged and interested in the teaching.

This teaching plan organized all of the aspects of the teaching session and allowed me to figure out exactly what information I wanted to get across to the families, through the most simple to understand means. Determining the exact objectives and the time frame in which to meet these objectives also gave me a more direct approach to the information, as opposed to making my presentation long winded and off topic.

Development of Teaching Plan/Instructional Strategies

Due to the feedback from the needs assessment, a pamphlet and hands-on demonstration were discussed in detail throughout their stay within the "fast track" or "minor care" portion of the emergency room. This pamphlet includes the typical discharge papers in lay-man's terms,

along with a printout of the "traffic light" system, a list of pharmacy's/ stores where less expensive thermometers can be found (located within a 5 mile radius of the Children's Hospital of the King's Daughters in Norfolk VA), and a list of antipyretics appropriate for their child, based on age and weight

The discharge papers are CHKD generated, and contain a basic background of a fever and the instructions related to their prescription (if prescribed). The "traffic light" system, discussed earlier, was used as a means to help parents determine the severity of their child's fevers based on their signs and symptoms. During the discussion, treating the child instead of the thermometer was stressed; this emphasizes the need for the parents to treat how the child is presenting and not get hung up on the number. For example, parents were instructed to take a good look at their child; are they are playing in the backyard but are running a slight temperature, or are they febrile and extremely fussy and just lying on the couch. The way that their child is presenting is a great factor in determining whether they should be treated at home and monitored, or whether a physician should be consulted. In addition, parents were urged to make informed decision based on their child's symptoms on whether they should treat with OTC medications versus going to the doctor's or the emergency room where germs run ramped.

The pharmacy list of inexpensive thermometers is to promote parents to stock up on the essentials to combat a fever. The list is comprised of the three primary drug stores (CVS, Walgreens, and Rite Aid) within a 5-mile radius from CHKD, with the thought that the parents could stop by one of these pharmacies on their way home. The act of bringing their child to the ER because they "feel warm" or they "think they have a fever" without actually checking their fever with a thermometer is unacceptable. This is blatant abuse of the system and an unnecessary exposure of their child to the communicable diseases found in the ER.

The demonstration focused on the technique associated with accurately taking a temperature and appropriately giving medication. The temperature technique is important so to not hurt the child, for example, by sticking the probe in to deep within the rectum; or inaccurately using the thermometer, which can give a false reading. In addition, accurately administering medications can easy some frustration and stops the child from spitting the liquid back out and not have the correct dosage.

The way an individual absorbs this knowledge can differ; however, multiple forms of teaching material have been gathered in order to adequately teach the most people. Auditory learners will benefit from the verbal teaching and explanation, visual learners have the discharge papers along with the pamphlet, active learners can participate in the demonstration, while reflective learners can take the material can reflect on it later. Those individuals with disabilities and non-English speaking families will benefit from the pamphlet; in addition, the "blue-phone" with a certified translator will be available at the time of teaching session to insure that non-English speaking families have the same opportunity to learn.

Evaluation

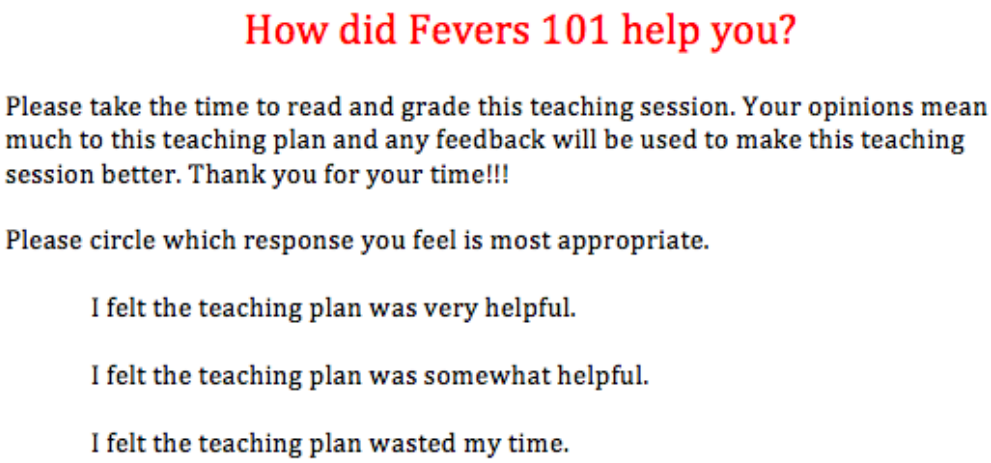
The evaluation of the teaching session was performed through questions and answers in the form of a questionnaire, along with a reverse demonstration. Each objective was measured for attainment using either a question and answer session or a reverse demonstration. The "stop light" system was reviewed during the teaching session to help parents understand the signs and symptoms of a severe fever; during the evaluation phase, in order to see if the families understood, I asked them questions regarding the information we had just spoken about. Similarly, I asked parents scenario-based questions in order to determine if they felt the child should be brought to the ER. For example, I told the families to pretend they had a three-year-old

child who was given immunizations that morning at the pediatricians, and is now running a fever; what would they do? Based on their responses to this question and question like these, I knew whether or not they had understood the material. If a parent did answer a question wrong or were unsure of their answer, we just went over the material again for clarity.

In regards to the appropriate tools the parents need to combat a fever, I asked them to list the appropriate supplies that they need and those that they need to go out and purchase. However, I feel that this goal was only partially met; while the families could list the materials that they need to combat a fever, it is still up to them to actually buy the supplies. For the demonstration of medication and thermometer use, I began by demonstrating on the child followed by the parents reverse demonstration. If the child was below two years old and need a rectal temperature, I made sure to go over the appropriate method when I did my initial assessment of the child and then I didn't have the parent demonstrate until I went back in to gather my discharge vitals; this cut back on the amount of times the probe was unnecessarily inserted into the rectum.

To assess the overall teaching session and to gather how the parents felt about the teaching session there was a questions and answers session in the form of a closed questionnaire. A closed questionnaire includes predetermined responses; the families just choose the response that best fits their perception of the teaching session. This method was used because I believed that the faster the questionnaire was to complete would positively affect how many people actually took the time to complete it (Figure 3). Out of the 25 families who participated in the teaching session only 18 graded the session using the written evaluation tool. Ten of the 18 families graded the teaching session as "very helpful", while seven graded it "somewhat helpful", and one family graded it a waste of time. I believe that the objectives were met and the

desired outcome of the teaching session was obtained; the majority of families felt they had taken something valuable away from the teaching session, and all the families met the objectives.



How did Fevers 101 help you?

Please take the time to read and grade this teaching session. Your opinions mean much to this teaching plan and any feedback will be used to make this teaching session better. Thank you for your time!!!

Please circle which response you feel is most appropriate.

I felt the teaching plan was very helpful.

I felt the teaching plan was somewhat helpful.

I felt the teaching plan wasted my time.

Figure 3. Evaluation tool

Summary

This teaching plan has taught me a great deal about teaching styles, and the extensive amount of preparation that goes into teaching a group. I believe the most novel aspect to me was the needs assessment; I love the idea of actually asking the population you are going to teach what they want to know. I think that this is the best way to make sure that the audience actually cares, and it keeps them more engaged in the topic. It also helped me to generate a teaching plan that all different people can actually learn from, through different styles of teaching, and to those individuals whom are disabled or non-English speaking. I had such a great time teaching the families information that they actually could benefit from, and that most told me they had never been told before. I believe the hardest part of teaching this information was combatting against those people who are just uninformed and who still practice different remedies that are totally based on myth. The “feed a fever, starve a cold” myth was a huge one that I had to continuously say isn’t a real thing. Furthermore, I really appreciated the positive feedback for all of my hard work; though not every family participated I would like to think that I really helped a child get

the proper care that they need. With the health care system and the economy struggling to keep up with the demands of the population, I believe that it's imperative to reach out and educate those individuals who are unaware of the appropriate treatment for fevers in the pediatric population.

Appendix A

TEACHING PLAN
Heather Proffit

Purpose: Instruct parents on the appropriate ways to distinguish between the severities of fevers along with the appropriate methods of treatment.

Goal: The parents of the patients will be able to make informed healthcare decisions to treat their child's fever based on their children's signs and symptoms.

Objectives	Content Outline *	Method of Presentation	Time Allotted (In minutes)	Resources	Method of Evaluation	Outcomes
Following a 20 minute teaching session, the parents of the patients will:						
Recognize the signs and symptoms of fever and determine its severity (cognitive)	Difference between low risk and severe risk fevers based on the "stop light system". (Moran & Nicholson, 2012)	One-on-one instruction	5min.	Pamphlet containing "traffic light system" chart	Question and answer	Outcome met; parents able to answer questions about informational pamphlet
Make educated decisions between treating the fever at home, taking child to pediatrician, or taking the child to the emergency room (cognitive)	Pros and cons of the ER and pediatrician offices based on the signs and symptoms of their child.	Discussion	5min.	"Traffic light system" chart	Question and answer	Outcome met; parent able to answer questions about when it is appropriate to treat with OTC medications vs. physician consolation
Be equipped with appropriate tools and medications (cognitive)	Accepted route (TA, PO, rectal, or axillary) of gathering temperature readings. Appropriate thermometer and medications based on the child's age and weight.	One-on-one instruction	5min.	Pamphlet containing a list of appropriate and inexpensive supplies and stores to find them	Question and answer	Partially met; parents aware of what type of thermometer to buy, along with where to go; they know have the responsibility of actually buying the thermometer
Demonstrate how to accurately gather a temperature; verbalize the appropriate medication treatment (psychomotor)	Technique to accurately access the patient's temperature based on the correct equipment and route. Appropriate medication based on the specific age and weight of the child while focusing on the correct dosage, routes, and regiment.	Demonstration Return demonstration	5min.	Technique will be assessed by using their child for the demonstrate -ion. Drug info can be gathered from the medication label	Observation of the return demonstrate -ion Question and answer	Met; parents able to answer questions about medication, along with how to accurately give medication and use a thermometer to obtain an accurate temperature

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TEACHING PROJECT SUMMARY PAPER
GRADE SHEET

Grading Criteria	Comments	Points
Introduction **(5)** • Overview of project and description of problem that was addressed by the instructional intervention		
Target Audience **(5)** • Features and demographics of target group are described		
Standards of Practice **(5)** • Specialty-specific standards are described, and relationship to project established		
Needs Assessment **(10)** • Includes information that establishes need for instruction, as well as the needs of the learner		
Teaching Plan **(10)** • Objectives are consistent with purpose and goals of the instruction • Content is relevant to the objectives • Method of instruction, time and resources are appropriate for the objectives • Evaluation methods and outcomes are appropriate for the objectives		
Instructional Strategies **(20)** • At least 1 learning theory is used to support the choice of instructional methods • Cultural considerations related to instructional methods selected for use are addressed • Other literature sources besides the course textbooks are used to the support the choice of instructional methods		
Evaluation **(10)** • Methods are described and results presented		

Summary **(5)** -Reflects on the project and the personal learning that occurred		
Format & Style **15** • APA Format • Grammar, spelling, punctuation • Not to exceed 10 pages • Honor Code		
References **(15)** • The citation of 5 relevant sources from the professional nursing literature (above and beyond course textbooks) are included in the text of the paper and on the reference page.		
Total		