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Lyme Disease Prevention

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Himmelstein, Russell D., "Lyme Disease Prevention" (2018). *Family Medicine Clerkship Student Projects*. 397.
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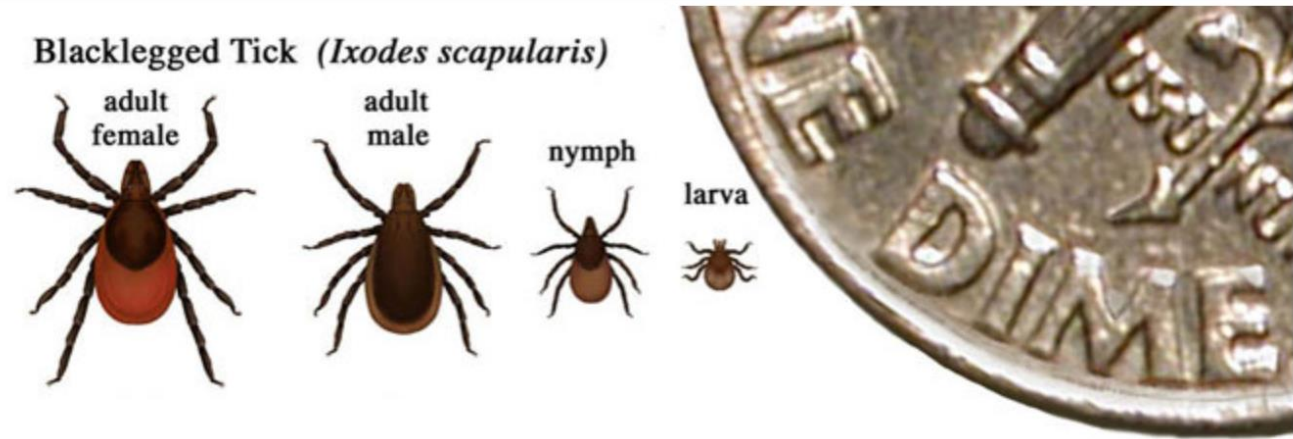
LYME DISEASE PREVENTION

Russell Himmelstein

September 2018

Dr. Boulattouf

The problem

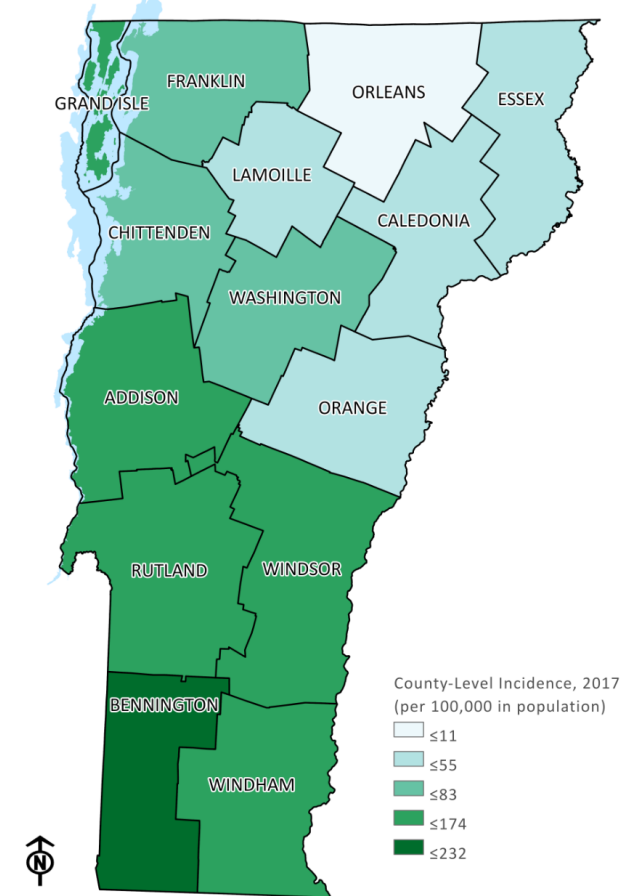


- Lyme Disease is a tick-borne illness caused by the bacteria, *Borrelia burgdorferi*, from the bite of infected ticks; symptoms can range from fatigue and myalgias to neurologic disease and carditis
- There are 300,000 new cases diagnosed each year, and this has more than doubled over the past 13 years
- Why so many cases?
 - Limited public awareness, clothing choices when outdoors, climate change, and increased tick density

Public health cost

- \$712 million and \$1.3 billion each year in medical cost from Lyme and post treatment lyme disease syndrome (PTLDS)
- In 2016, Vermont had 2nd highest report rate of Lyme disease in the U.S.
- Although easily treated, most of the cost comes from PTLDS, with an average of \$10,000/ case

County-Level Incidence of Confirmed Lyme Disease Cases Reported to the Vermont Department of Health, 2017



VT Dept of Health

(Fig. 1) COUNTY-LEVEL LYME DISEASE INCIDENCE IN VERMONT, 2005-2016



Community Perspective

"Lyme disease can create, and worsen depression and anxiety, specifically because it can cause a lot of non-specific physical complaints. Patients are often anxious about what the symptoms mean, and it can be difficult to have no clear answers. There is also a financial burden they face, with specialists, multiple expensive treatments. On my end, there is a lot of psychoeducation that takes place, especially as patients adjust to a chronic disease, and how it affects their psychological well being."

Kay Barrett, clinical psychologist at Berlin Family practice

"While we as cub scout leaders have training focused on safety, there is no training on Lyme Disease or how to prevent it in our kids. With about 60 families, there is a wide range of outdoor experience; from those who have never been outside to those who have hiked the long trail many times over. Having someone talk to our group is a way we are trying to educate parents, especially since most of our participants have no previous education on Lyme."

William Clark, Cub scout leader in South Burlington

Community Perspective II

- “I feel as if I have been removed from the medical system since my disease (LD) is not recognized by insurance. There are a number of expenses that come along with this diagnosis, and it becomes exhausting to go from one specialist to the next. While fatigue no longer bothers me, I know others where it has so much so that they cannot work. I feel as if I am regulated by my disease.”

-Lyme literate community member

Intervention and Methodology

- Developed and presented a 5 minute talk given to go cub scouts and their parents in the South Burlington area
- Interactive talk, with a crossword puzzle to learn about lyme



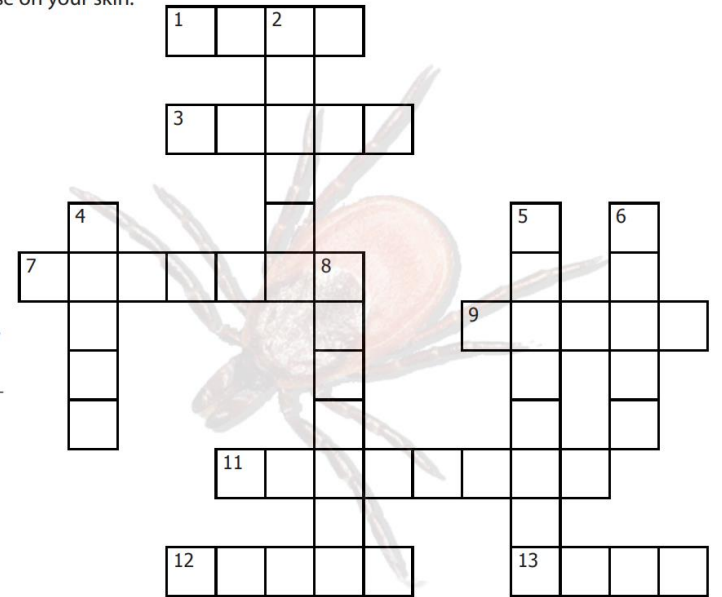
Test Your Knowledge!

ACROSS

1. If a tick makes you sick, you may get one of these on your skin.
3. Ticks eat _____.
7. Never pull off a tick with your _____.
9. If a tick makes you sick, you may feel hot because of a _____.
11. Ticks can be so small, you might think they look like _____.
12. A place where ticks wait for people or animals.
13. After removing a tick, wash the bite with _____ and water.

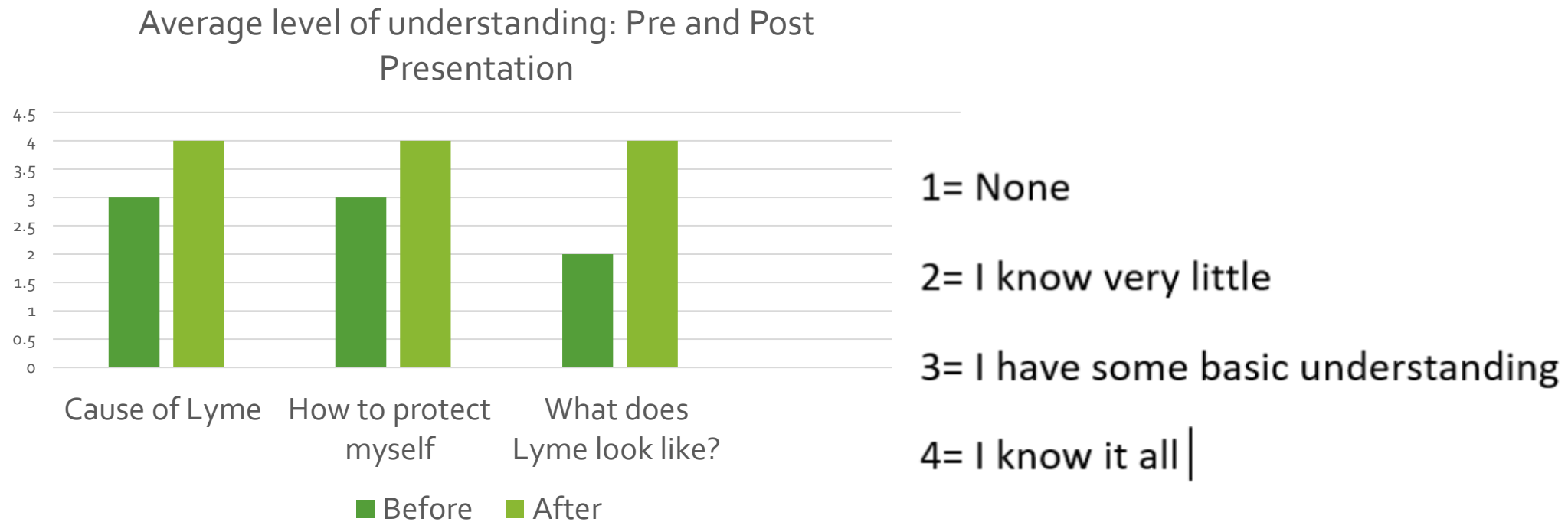
DOWN

2. Take a bath or _____ to help remove ticks.
4. The number of legs a tick has.
5. Tool for removing ticks.
6. When you come indoors, always _____ for ticks.
8. Ticks are related to these web spinners.



Results

- Post- presentation survey for parents and kids that attended the talk
- The scouts and their families were engaged during the talk, and we received positive feedback after



Evaluation of effectiveness and limitations

Evaluation of effectiveness:

- Post- presentation survey for parents and kids that attended the talk

For each of the topics below, please check the box under the number that is your level of understanding before and after the talk on Lyme Disease

1= None

2= I know very little

3= I have some basic understanding

4= I know it all

	Before the talk				After the talk			
	1	2	3	4	1	2	3	4
Cause of Lyme disease								
How to protect myself								
What does Lyme disease look like								

Limitations

- Limited time (5 minutes) for the presentation and to answer questions
- Every family may not read the handouts given about Lyme
- The presentation survey was number based, without room for individual comments

Recommendations for future interventions/projects

- Incorporate Lyme Disease prevention discussions with patients (especially those who enjoy the outdoors) during yearly physical exams
- Have a liaison at the office who's primary goal is LD education in schools, girl scouts, cub scouts, etc.
- Use an interdisciplinary approach at the time of diagnosis to assist with physical as well as psychosocial distress
- Continue research on a Lyme disease vaccine

References

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