Infectious Disease Transmission: Exchanging Body Fluids Simulation

**Background:** Two of the tubes in the class contain fluid containing a mythical infectious disease. All other tubes contain normal uninfected “body fluids.”

**Procedure:**
1. Take your cup of fluid. If your cup has an A on it, you are practicing abstinence and you will not exchange fluid with anyone. Everyone else follows the rest of the directions.
2. Select a person you “trust” and “suck up” one pipette of fluid from your tube while your trustworthy partner “sucks up” one pipette of fluid from her/his tube.
3. Simultaneously, pipette the contents into the “other” tube. (i.e., you squirt into your partner’s tube and vice versa).
4. If there is a 1 on your cup, stop now. You will only exchange fluids with one person. Everyone else proceed.
5. Select a second person you “trust” and repeat steps 2 and 3.
6. Select a third person you “trust” and repeat steps 2 and 3.
7. Return to your seat and hold your cup above your head.
8. Your teacher will add the acid-base indicator phenolphthalein to your tube.
9. Swirl your fluid gently after the phenolphthalein is added. A pink color indicates that your tube has been “infected.” No color change indicates that you have remained free of the disease.
10. Record the class data in the data table and compute the percentages.

**Data Table:**

<table>
<thead>
<tr>
<th></th>
<th>Number of individuals infected</th>
<th>Individuals Participating</th>
<th>Percent Affected (infected/participating)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstinence “A”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom (Plastic Wrap)</td>
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<tr>
<td>Broken Condom</td>
<td></td>
<td></td>
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<tr>
<td>1 Partner/ No Protection “1”</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No protection</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discussion Questions:**
1. Who might have spread an infection to the class?
2. Why did some people not become infected?
3. Did the people with only one partner become infected? Why or why not?
4. Did the plastic covering always provide the necessary protection? Why or why not?
5. Did abstinence always prevent infection? Why?
6. How is this infectious disease exercise similar to the HIV/AIDS pandemic?
7. How is this infectious disease exercise different from the HIV/AIDS pandemic?