Background

Meningitis is an extremely disparaging disease, and in the past few years, infection has become increasingly common in teenagers and young adults—especially college freshmen. According to the U.S. Centers for Disease Control, college freshman living in dormitories are six times more likely to be infected compared to other people and make up 5.1 per 100,000 cases, which is the highest national demographic.

Though only 3,000 cases of Meningococcal meningitis are reported each year, the effects of this disease can be fatal or the victim may have severe complications for the remainder of his/her life, such as brain damage or amputation of limbs. The bacteria infects the brain and spinal cord and this type of meningitis can be transmitted through casual contact and sneezing.

In the United States, ten states require vaccinations or waivers for meningitis at public colleges and universities, nineteen states require public colleges and universities to provide education on meningitis and the vaccine and twenty states that have no policy regarding Meningococcal vaccinations, according to the National Conference of State Legislators. The hesitation of requiring this vaccine is mainly due to its cost, which is about $100 per dose.

Missouri Senate Bill 686, that recently passed, states that “every public institution of higher education in the state shall require all students who reside in on-campus housing” to either show proof of the Meningococcal immunization or sign a waiver that says you have received information on the vaccine and meningitis and have chosen not to be immunized. Therefore, samples will be taken from four Missouri universities, two that require the Meningococcal immunization (Truman State University and Missouri University-Columbia) and two universities that do not require the immunization (Washington University and St. Louis University). The results will be taken on a voluntary basis from ten percent of each schools undergraduate population in accordance of with the Law of Large Numbers.

I have had limited laboratory experience, but I have been presented with and tested on extensive information about numerous viral and bacterial infections in my science courses which has prepared me to form this question. Also, the statistics course I am currently taking has given me a comparable understanding of the requirements of taking a sample and therefore, I would be capable of conducting this research. This topic is important to me because I will be a college freshman in fall of 2005 and will be at high risk for the infection, according to my background reading. Also, my intended major includes a concentration in Public Health and Epidemiology so this is of particular interest to me.

Purpose

The objective of this research is to educate college students on the risk of Meningococcal meningitis and collect their opinion on the requirement of the Meningococcal vaccine before and after receiving information about the risk. Other higher education institutions would be able to use this research to establish their own policies on the requirement of the Meningococcal vaccination, based on student opinion. This would hopefully lower the number of college students infected with meningitis.

Method

By taking a simple random sample of each population we can calculate an unbiased answer because bias is eliminated from the respondents and the interviewer. We can do this by drawing out n number of students (n is dependent on the population of undergraduate students and Law of Large Numbers as previously stated) using a random digit generator or another randomized method and question each chosen student with three series of questions:

1. Assorted questions concerning his/her opinion on the requirement of the Meningococcal vaccine in higher education institutions at that specific time.
2. A sequence of questions to establish the current awareness and a series of facts to heighten the subject’s awareness and knowledge of the vaccination/infection.
3. A final sequence of questions to determine if the student’s opinion on the vaccination requirement has changed or remained the same since the first succession of questions.

The answers to all of these questions should be recorded in table form and analyzed, focusing on the opinions prior to the second series of questions and the opinions of the students following the second series. This data should then be presented to the university or colleges governing body, and if they do not already have the requirement for Meningococcal vaccination of beginning undergraduate students, hopefully the results of this research will help the institutions confirm or amend that decision.