Math 1: Contraception Cost Analysis

Aim/Rationale

Students will gain an understanding of the real-world process, challenges, and factors involved in obtaining and using various types of contraception, with a focus on evaluating cost and risk.

Competencies

1) *Solves a situational problem*
2) *Uses mathematical reasoning*
3) *Communicates by using mathematical language*

Lesson

Materials

- Students are expected to come to class with writing utensils and paper.
- Projector, computer.
- Contraception Methods and Example Scenarios handouts
- Contraception Cost Analysis Worksheet for teachers (not to be distributed to students)
- Optional:
  - Internet access
  - Students may have access to computers or smartphones to conduct research

Hook [5-10 min]

Review common types of contraception, and distribute handout on Contraception Methods to the students.

Development/Teaching Methods [15-20 min]

Divide students into small groups and assign one or more scenarios from the Example Scenarios handout to each group. Each scenario involves a hypothetical person who is sexually active and wishes to use contraception. Students may receive information about their scenario, like age, sex, gender, weight, relationship status, how frequently they engage in sexual activity, income, and/or any other information the teacher wishes to include.

Have students evaluate the cost of different methods of contraception over 1, 5, and 10 years of assumed use (For the purposes of this activity, abstinence is not an option). Have students decide, based on cost alone, what method of contraception is best for their scenario.

After selecting the top 5 contraception methods based on cost, describe how contraception effectiveness is measured, that rates are based on one year of study (http://kidshealth.org/en/teens/bc-chart.html), and the difference between typical and perfect use (http://plannedparenthood.tumblr.com/post/96195824447/welcome-to-advanced-sex-ed-planned-parenthoods). Have students revaluate their decision while taking into consideration the effectiveness of their methods. Does this change their choice for the best method of contraception for their scenario? If there is a more effective method that costs more, is it worth the additional costs? At this point, the teacher may also have students take into consideration the possibility of combining two methods of birth control.

Culmination [10-15 min]

Students may share their reasoning and decisions with the class. What other factors may impact their decision? What options may be available for the person in their scenario to help decrease the costs?

Students may also use one or more online birth control selection tools as the person in their scenario.

- http://www.sexandu.ca/contraception/
- https://tools.plannedparenthood.org/bc/birth_control_quiz
- http://www.arhp.org/methodmatch/
- http://bedsider.org/methods

Are there any factors that students didn't consider? What factors do these birth control selection tools take into account? Remind students to consider that insurance, for example through parents or RAMQ, can reduce the cost of prescription options.

Performance Objectives

By the end of this lesson, students will have:

- Practiced planning and developing a mathematical model to evaluate a situation.
- Practiced estimating and approximating numbers under study.
- Practiced representing a situation using an equation.
- Practiced recognizing, interpreting, and comparing ratios and rates.
- Explored and understood various forms of contraception.
- Gained knowledge of local contraception availability.
- Worked as a team to come to a collective decision.

Assessment Ideas

1. Students may be asked to prepare and submit a report detailing the reasoning and decision-making process in choosing a method of contraception for their scenario.
2. The teacher will informally assess student participation during group work. Students may also be asked to evaluate their group members' participation.

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