



Nanomedicine awareness among medical students in Saudi Arabia



Deanship of Scientific Research

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ABSTRACT

Objectives

The study's aim was to assess the medical students' knowledge and understanding of concepts related to basic nanotechnology and its applications in nanomedicine among medical students at King Saud University.

Methods

An observational cross sectional study was carried out by using an online questionnaire that was sent to all the medical students studying at King Saud University in the summer of 2016 (July-August). The sample size of the study was 162 medical students. The questionnaire consisted of 11 items, including both fixed and free answer-type questions. The questionnaire was sent to 1413 medical students, with a response percentage of 8.72%.

Results

Students' perception of the basic nanotechnology was assessed, 63.0% (n=102) of the students identified the correct definition of nanoparticle size. Unfortunately, only 40.7% (n=66) of the students heard about nanomedicine. Most of the information sources were from university 25.3%, 24.1% from internet, and 11% from television. 81.8% of our medical students, had little knowledge about the risk-benefits of nanomedicine. Interestingly, about 72.8% (n=118) of the students think that nanotechnology is not effectively used in the medical field.

Conclusion

Medical students at King Saud University, showed that they have inadequate knowledge about nanotechnology and its applications in nanomedicine. Nanomedicine education should be implemented in the curriculum of the medical colleges in Saudi Arabia, to improve the awareness and future involvement in nanomedicine.

OBJECTIVES

The study's aim was to assess the medical students' knowledge and understanding of concepts related to basic nanotechnology and its applications in nanomedicine among medical students at King Saud University.

METHODS

Study Design and Setting

Quantitative (Observational) Cross Sectional study design was carried out by using an online questionnaire that was sent to all the medical students emails studying at King Saud University in the summer of 2016 (July-August).

Study Population

Medical students studying at King Saud University in the academic year 2015 - 2016 was selected according to predetermined criteria to ensure their relevance to the study purpose and for obtaining optimum results.

Sample Size

The questionnaire was sent to 1413 medical students (820 males, 593 female) with a response percentage of 8.72%.

Data collection methods

A questionnaire from previous study was used [4]. The questionnaire is divided into three parts; (1) "students' responses on the nanoscale" this corresponds to 1st-3rd questions, (2) "students' responses on the nanomedicine" this corresponds to 4th - 7th questions. (3) "students' responses on nanomedicine perception" 8th - 10th. The 11th question is an open question to elicit student's perception of a hypothetical nanomedical procedure.

Statistical analysis:

Data were analyzed by using Statistical Package for Social Studies (SPSS 22; IBM Corp., New York, NY, USA). Categorical variables were expressed as percentages. Chi square test was used for categorical variables. A p-value <0.05 was considered statistically significant.

RESULTS

Students' perception of the basic nanotechnology was assessed, 63.0% (n=102) of the students identified the correct definition of nanoparticle size. Unfortunately, only 40.7% (n=66) of the students heard about nanomedicine. Most of the information sources were from university 25.3%, 24.1% from internet, and 11% from television. 81.8% of our medical students, had little knowledge about the risk-benefits of nanomedicine. Interestingly, about 72.8% (n=118) of the students think that nanotechnology is not effectively used in the medical field.

Figure 1.

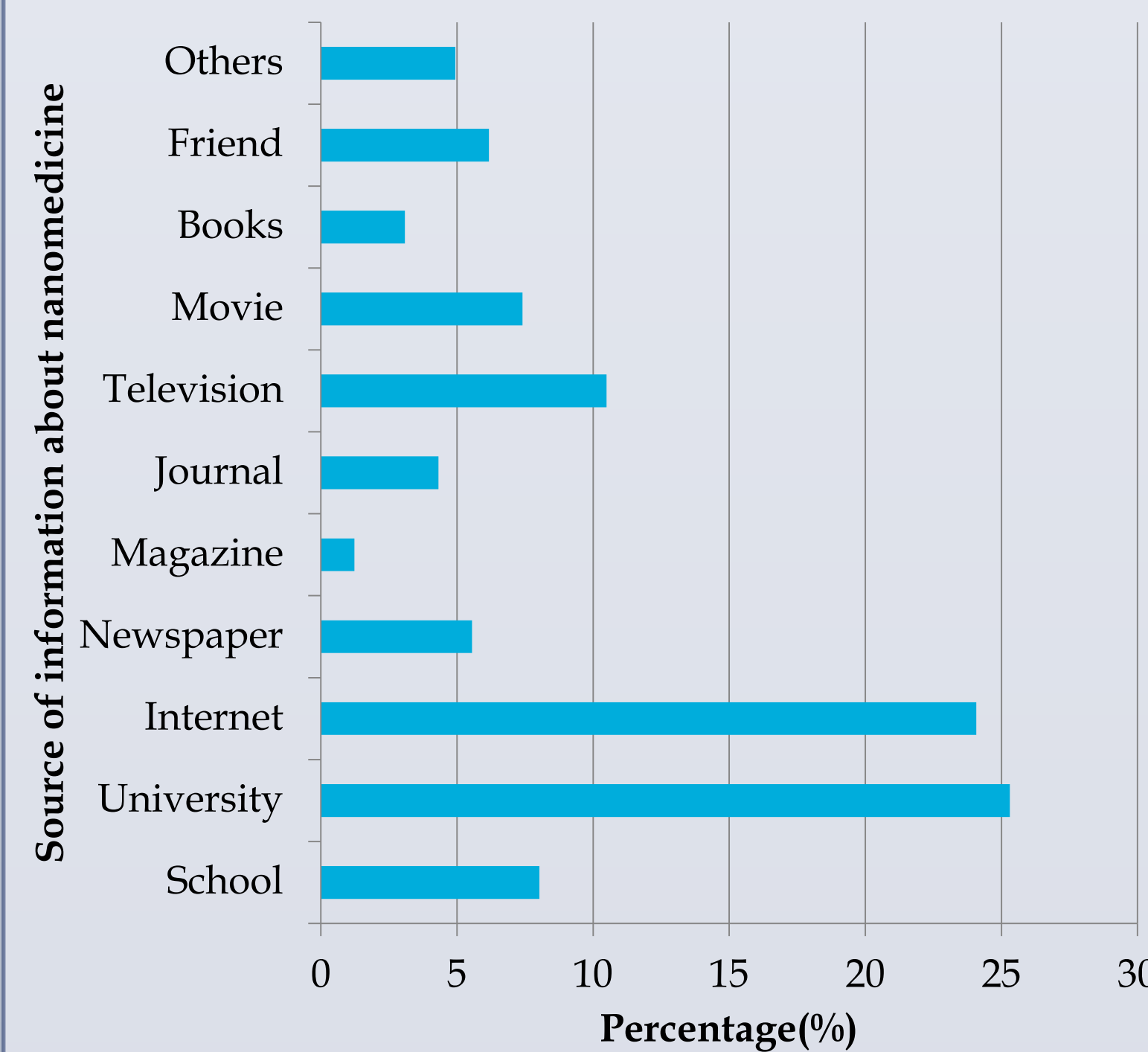


Figure 2.

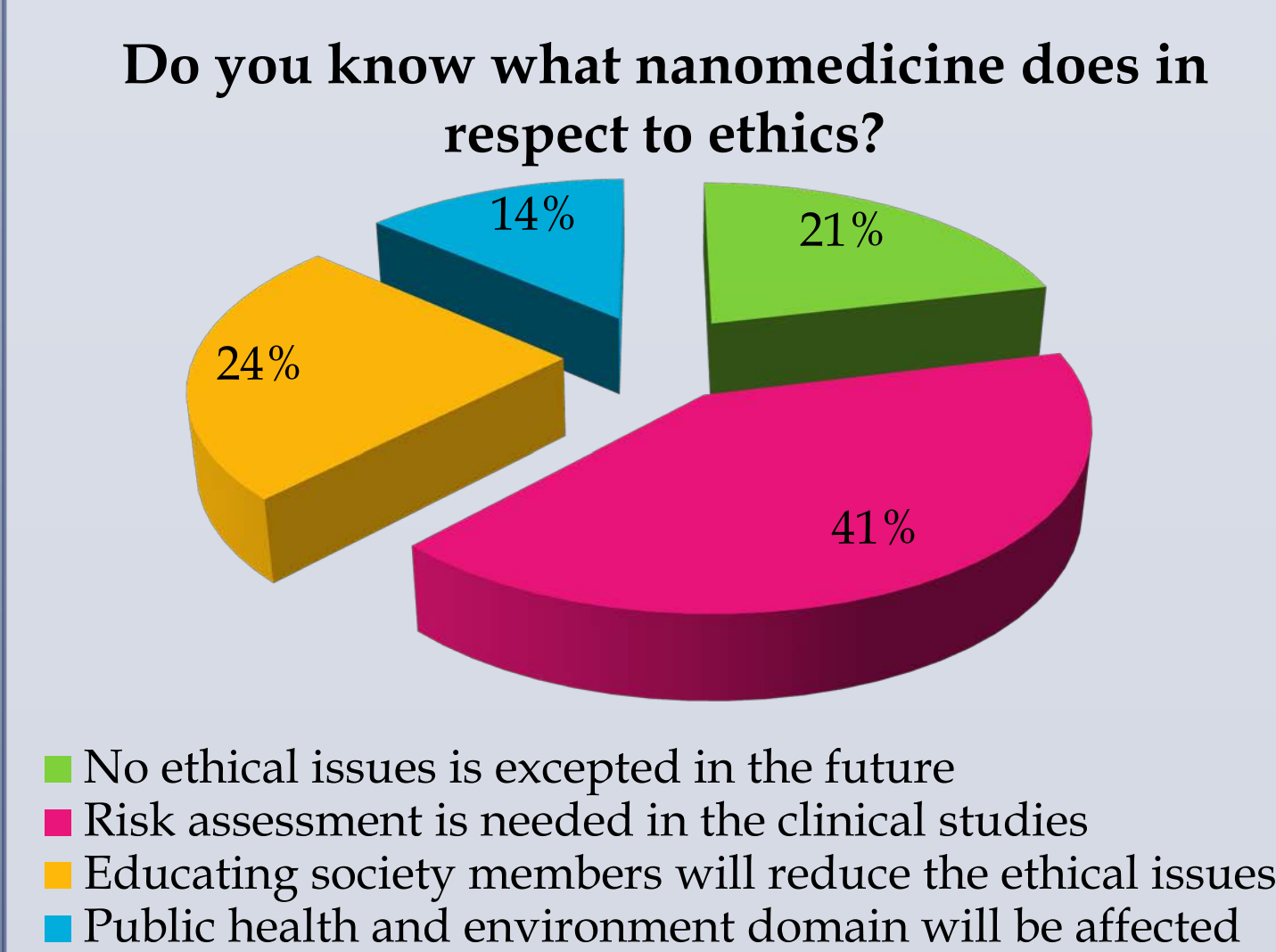
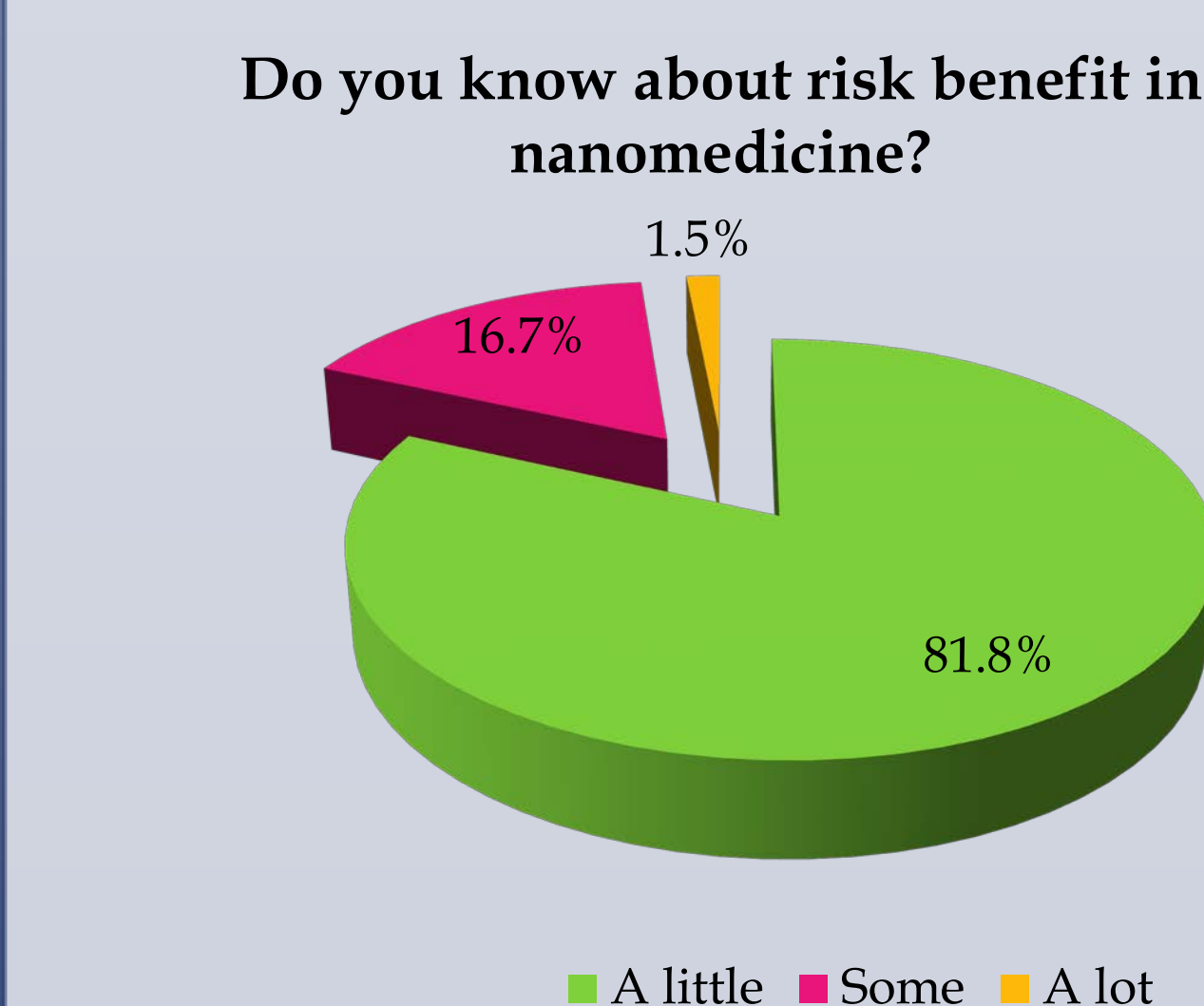


Figure 3.



CONCLUSION

Medical students of King Saud University, showed that they have inadequate knowledge about nanotechnology and its applications in nanomedicine. Moreover, they believe that nanotechnology is not effectively used in the medical field, and most of them disagree that public has awareness of nanomedicine. Nanotechnology is a promising technology and Saudi's government is implementing and funding the research to invest in this technology. We think that nanomedicine education should be implemented in the curriculum of the medical colleges in Saudi Arabia.

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