

The CRISPR Craze: Exploring perceptions of CRISPR-Cas system gene editing

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Aim: To collect information about understanding and perception of CRISPR-Cas system gene editing. **Methods:** The study consisted of an anonymous survey that was distributed to the general public via social media and to the Fragile X and Muscular Dystrophy communities via email and social media. The survey was used to assess genetic literacy, evaluate understanding of CRISPR-Cas system gene editing, and gather opinions on the utilization of gene editing. Surveys were analyzed using descriptive statistics. This study received Institutional Review Board approval from Boston University. **Results:** Social media was a successful method of recruitment for this study, recruiting 76 individuals from the general public. Similarly, recruiting interested participants from the rare genetic disease community through ListServes and Social media efforts was successful. Both participant groups demonstrated a strong foundational knowledge about most general genetic concepts. However, this study found that participants do in fact have misconceptions about the current status of how gene editing is being used in the United States. Participants had opinions about appropriate use of this technology, concerns about unethical developments, and hopes for future applications. Further, participant groups were found to have discrepant beliefs about certain applications of CRISPR-Cas system gene editing. **Conclusions:** This study demonstrated that the utilization of dramatic headlines in the mainstream media about CRISPR-Cas system gene editing impacts perception of this advancing technology. Further, this study revealed a gap in knowledge about current and future applications of gene editing. This finding suggests that there is a lack of clear and complete education about this technology across all news sources. Therefore, it is essential for the mainstream media to communicate balanced information around policy and governance in addition to advancing applications of the technology to allow an interested audience to form an educated opinion. Moving forward it is critical that leaders in the scientific community guide discussion and communication efforts in the mainstream media about potential societal impacts of the application of new genomic technologies.