**Title:** Evaluating the impact of a standardized script delivered by a peer mentor on anxiety and satisfaction during a hand surgery mission to Nicaragua

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**Background**
Every year, missions from the US travel to low and middle-income countries to help the disadvantaged. Lack of resources such as insufficient patient income, few surgeons per capita, and limited surgical expertise are barriers to receiving surgical care.

A concern for adequate communication during surgical missions continues to rise, as providing not only correct, but culturally and educationally specific information to each patient could potentially impact outcomes. There are obstacles in between doctors and patients in these types of missions, where doctors have to overcome the language and cultural barriers to communicate with patients.

Underserved populations, often lacking education, may struggle with considering information affecting decisions regarding surgery. Effective delivery of information is crucial to patient decision-making and can have significant impact on anxiety levels, patient satisfaction, and clinical outcomes.

**Aims**
The purpose of this study was to evaluate the impact of using a standardized script delivered by a peer mentor summarizing surgical risks, expectations, and standard of care, on anxiety and satisfaction during a hand surgery mission to Nicaragua. Our hypothesis was that the standardized script would improve understanding, reduce anxiety, and increase satisfaction.

**Methods**
Patients receiving hand surgery from the Hand Help, Inc. surgery mission to Managua, Nicaragua, in March 2016, were invited to participate in this study. Each patient underwent a clinical consultation with a hand surgeon, after which participants were randomized to either control group or intervention
Participants in the intervention group met with a peer mentor and were delivered a standardized message (written by an attending hand surgeon and translated to Spanish by a certified translator) which included explanations of the potential surgery risks, expectations, and standard of care. Participants in the control group did not have the meeting with the peer mentor. Both groups completed a satisfaction and anxiety survey on the screening day (before meeting the peer mentor in the intervention group) and again on the day of surgery (after meeting the peer mentor in the intervention group). From a group of 57 patients, 27 received peer teaching, and 30 did not.

**Results**
91.2% of the patients were adults, 3.5% were children, and 5.3% figured with ‘No Age Id’. From the adults, 34.6% were male, while 65.4% were female. From the children, 50% were female. The mean age was 48 years in adults and 17 years in children, with mean education of 7.8 years and 8 years respectively. Mean monthly family income was 317$. 39% of the participants were employed. Mean time since injury was 30 months. No statistically significant differences in demographic variables were observed between the control and intervention groups.

There was no significant difference in overall anxiety level towards surgery when comparing the intervention group with the control group (p=0.05; anxiety level 4.6 versus 5.3 on a scale from 1-10, 10 being most anxious). Significant differences were found when evaluating their anxiety related to ‘no change in functionality after the surgery’, (p=0.03; 22% of intervention group were ‘Not Very Worried’ in comparison to 3% in the control group. p=0.03; 0% of the intervention group were ‘Very Worried’ in comparison to 17% in the control group). The rest of the causes of anxiety showed a similar distribution in between groups. No statistically significant differences were observed in patient-reported level of surgical understanding, satisfaction with surgical understanding or satisfaction with communication.

**Conclusion**
The use of a peer mentor delivering a standardized script detailing surgical risks, expectations, and standard of care can have positive impact on the patient’s level of anxiety about their outcome after the surgery and their change in functionality. The intervention group showed less anxiety towards their functionality after the surgery. Other variables showed mixed impact on perceived understanding, anxiety and satisfaction in a surgical mission. This study highlights potential positive effects of using a peer mentor delivering a standardized script for patient education during a surgical mission in order to lessen anxiety towards outcomes after the surgery.