Allow Me to Introduce You: Facilitating Medical Student Exploration of the Field of Diagnostic Radiology through an Interactive, Multi-Format Expo

THE UNIVERSITY OF CHICAGO MEDICINE

Abstract # 17-031

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Introduction

A large proportion of medical imaging taught to medical students is instructed by non-radiologists[1].

75% of medical schools do not require a diagnostic radiologist-led experience[1,2].

Elective radiology rotations are commonly unavailable prior to the fourth year of medical school[3].

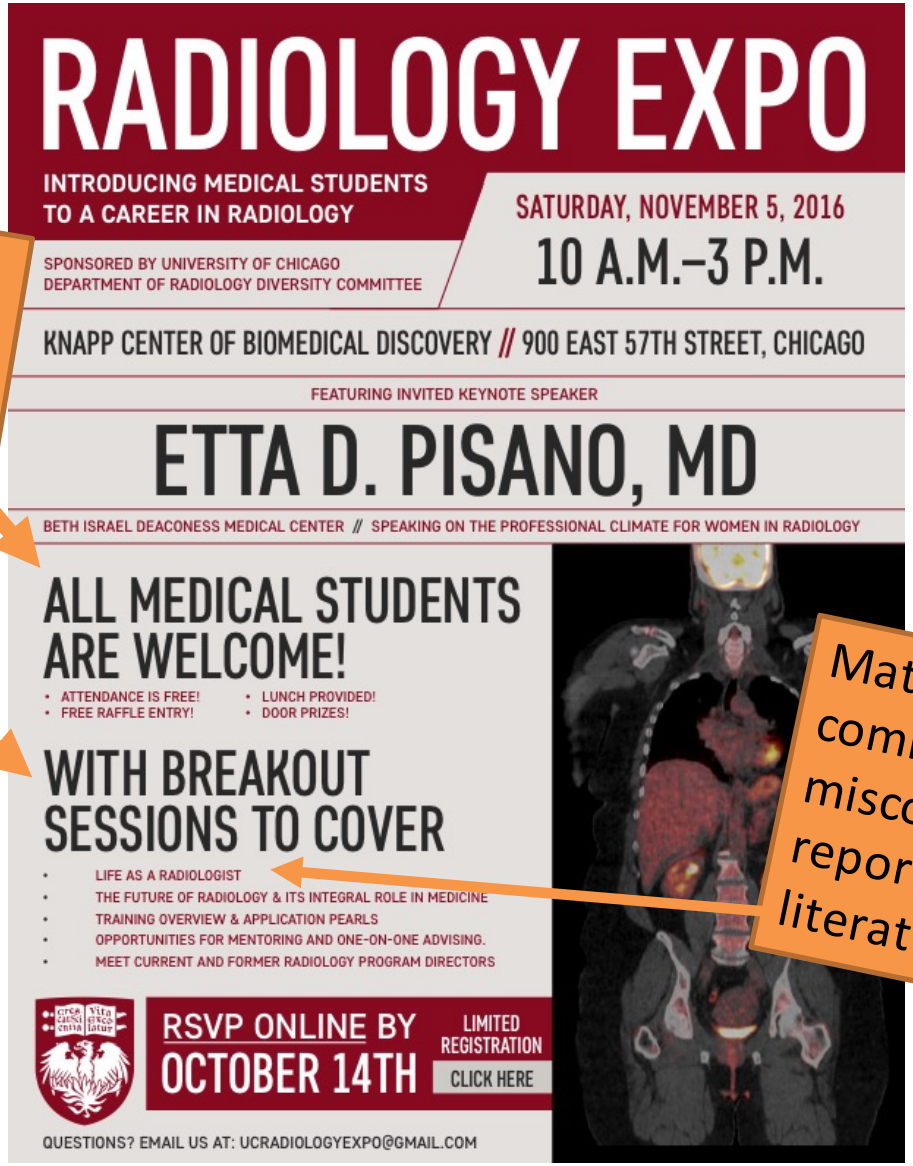
Earlier introduction to the field of radiology improves medical students' perception of diagnostic radiology[4,5].

Materials/Methods

Open to all interested medical students in any year of training

Multiple learning modalities: didactic, interactive and hands-on

Materials targeted common myths and misconceptions reported in current literature



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Program

10:00 AM	Breakfast during Welcome & Opening Greetings
10:15 AM	Keynote Speaker: Dr. Etta Pisano
11:00 AM	Resident Research Presentations
11:15 AM	Break-Out session #1
11:55 AM	Break-Out Session #2
12:30 PM	Lunch with Radiology Attendings, Fellows & Residents
1:20 PM	Break-Out Session #3
1:50 PM	Wrap-Up and Informal Reception with light refreshments

Keynote speaker: Dr. Etta Pisano

"The Professional Climate for Women in Radiology"

Break-Out Sessions:

Attendees rotated through three small groups

A. Life in the Reading Room
Case-based presentations followed by Q&A

B. Application Pearls & Training Overview
Open forum with current and former radiology program directors, plus fellows and residents

C. Interactive Jeopardy-style Game
Radiology trivia, myths and misconceptions

Interactive/hands-on sessions:

- Fluoroscopically-guided lumbar puncture simulation using Sawbone Task-Trainer
- Ultrasound-guided breast biopsy simulation

Interactive/hands-on sessions:

- Individual and group advising with faculty radiologists. Attendees could sign up for 15-minute sessions with attending radiologists

Interactive/hands-on sessions:

Case of the Day competition with raffle

Mystery Case

A 58 year old man presents to his primary care provider with complaint of vague bilateral shoulder and hip pain, fatigue and recent memory difficulties.

Past Medical History:
Hypertension (well controlled), Seasonal allergies

Surgical History: None

Review of Systems:
+ vague joint and bone pain
+ memory impairment
+ constipation
Otherwise, negative ROS.

Physical Examination:
+ lack of energy
+ pallor
Otherwise, unremarkable exam.

Results

58 medical students from 9 regional medical schools attended the Expo.

To evaluate effectiveness, a 9 question 5-point Likert Scale survey was completed by each participant both before and after the Expo.

There was a statistically significant difference ($p<0.05$) in responses for all but one question.

The Expo improved medical students' perceptions of the field of diagnostic radiology.

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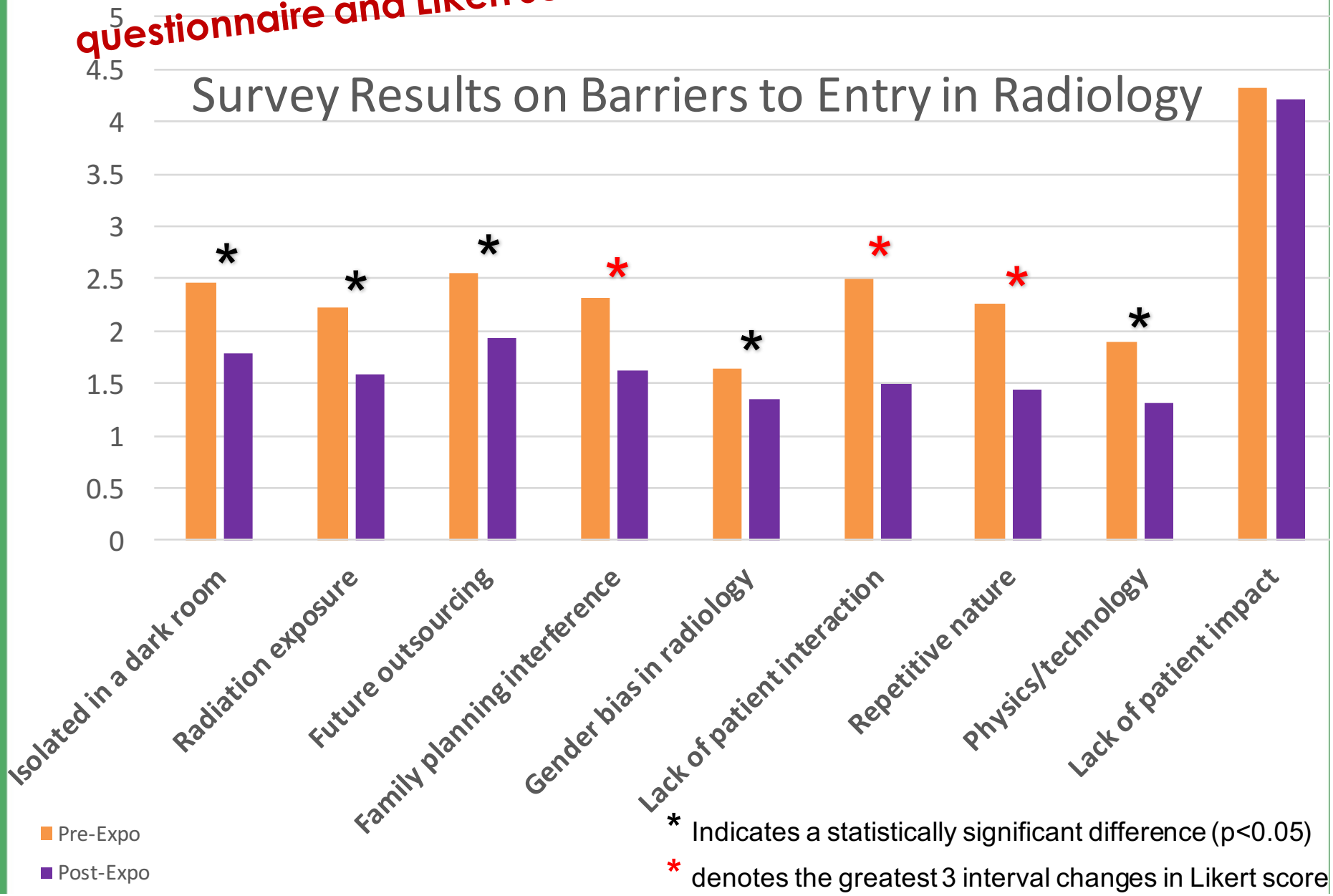
See appendix A for full questionnaire and Likert scores



* Indicates a statistically significant difference ($p<0.05$)

* denotes the greatest 3 interval changes in Likert score

Results

There was a statistically significant difference ($p<0.05$) in responses for all but one question:

"How much do radiologists directly affect patient's lives?"

This question had the highest score on the pre-Expo survey, which likely contributes to the lack of statistically significant difference when evaluating the post-Expo surveys.

We believe that the students attending the expo were already biased toward the belief that radiologists do significantly impact patients' lives.

Discussion:

Several surveys of first year medical students demonstrate that dedicated radiology teaching improves medical students' attitudes toward radiology – and also that these positive attitudes persist through graduation[5,6].

A survey of fourth year medical students (n=459) from 141 medical schools showed that students at medical schools with required dedicated medical imaging rotations were more likely to choose radiology as a specialty[4].

Introducing medical students to radiology and improving their perception of the field could attract more medical students to pursue a career in radiology.

Conclusions:

Introducing medical students to radiology through an informational and interactive exposition produces statistically significant improvement in their perception of the field of diagnostic radiology.

This effort can help to dismantle common myths and misconceptions, and thus facilitate informed decision-making as medical students consider their options in choosing a specialty.

Our results show that increased exposure to radiology improves perception of the field.

References

1. Rubin Z. The state of radiologic teaching practice in preclinical medical education: survey of American medical, osteopathic, and podiatric schools. J Am Coll Radiol. 2015 Apr;12(4):403-8.
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Appendix A

Question	Pre-Survey Mean Response Score	Post-Survey Mean Response Score	P-Value for null hypothesis that there will be 0 difference between the pre- and post-survey scores
Do you imagine that a career in radiology requires sitting in a dark room all day, separate from other clinicians?	2.4701	1.794	0.002
How concerned are you about the radiation exposure related to becoming a radiologist?	2.235	1.588	0.002
How concerned are you that diagnostic radiology will be increasingly outsourced to foreign countries?	2.559	1.941	<0.001
How concerned are you about the length and demands of a radiology residency interfering with your family planning decisions?	2.324	1.618	0.002
How concerned are you about gender bias in radiology?	1.647	1.353	0.039
How concerned are you about the lack of patient interaction in radiology?	2.5	1.5	<0.001
How concerned are you that boredom would ensue with the repetitive radiological examinations?	2.265	1.441	<0.001
How concerned are you about the amount of physics/technology related to the field of radiology?	1.882	1.324	<0.001
How much do radiologists directly affect patients' lives?	4.323	4.205	0.613