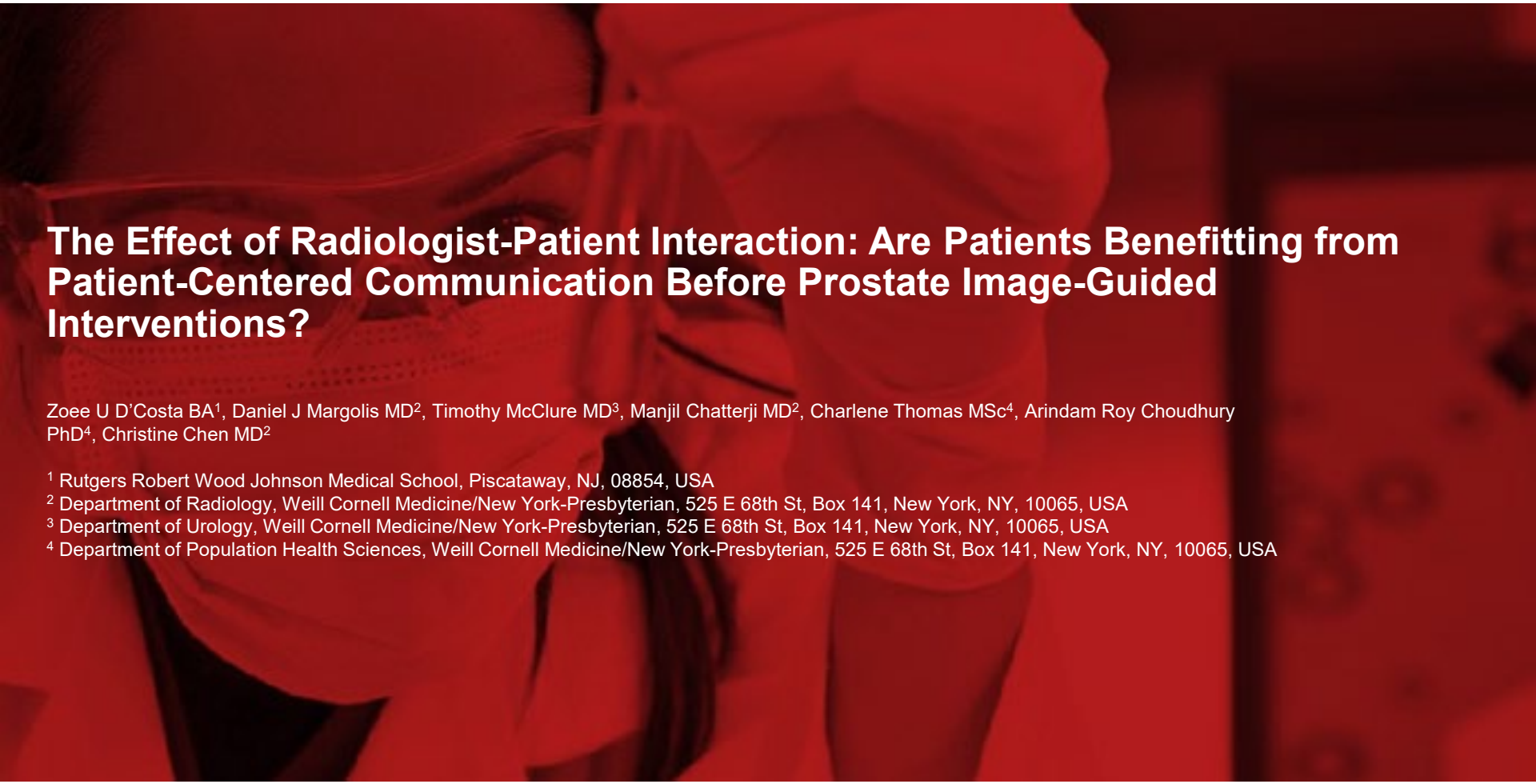


The Effect of Radiologist-Patient Interaction: Are Patients Benefitting from Patient-Centered Communication Before Prostate Image-Guided Interventions?

Zoee U D'Costa BA[1], Daniel J Margolis MD[2], Timothy McClure MD[3], Manjil Chatterji MD[2], Charlene Thomas MSc[4], Arindam Roy Choudhury PhD[4], Christine Chen MD[2]

[1] Rutgers Robert Wood Johnson Medical School, Piscataway, NJ, 08854, USA
[2] Department of Radiology, Weill Cornell Medicine/New York-Presbyterian, 525 E 68th St, Box 141, New York, NY, 10065, USA
[3] Department of Urology, Weill Cornell Medicine/New York-Presbyterian, 525 E 68th St, Box 141, New York, NY, 10065, USA
[4] Department of Population Health Sciences, Weill Cornell Medicine/New York-Presbyterian, 525 E 68th St, Box 141, New York, NY, 10065, USA

Introduction

- Patients frequently receive imaging results from referring providers who may not be well-versed in radiology exams, including prostate magnetic resonance imaging (MRI)
- Studies have found improved patient satisfaction and decreased anxiety levels following radiologist consultation [3,4,5]

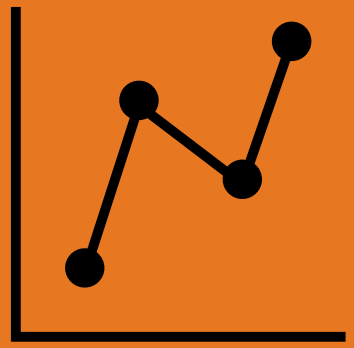
PURPOSE: The purpose of our study was to investigate whether patient-centered communication between radiologists and patients undergoing prostate MRI and image-guided prostate biopsy contributed to improved quality of care and a greater understanding of patients' own medical condition and the role of the radiologist.

Methods

A single-arm **pre- and post-intervention** study involving 5 to 10-minute radiologist consultations was performed

Evaluation using 5-point or binary rating scales:

- Patients' understanding of the role of radiologists
- Prostate MRI
- Prostate cancer
- Anxiety level before and after the consultation
- Patient satisfaction level with consultation
- Preference for receiving results
- Prior experience with radiologist consultation



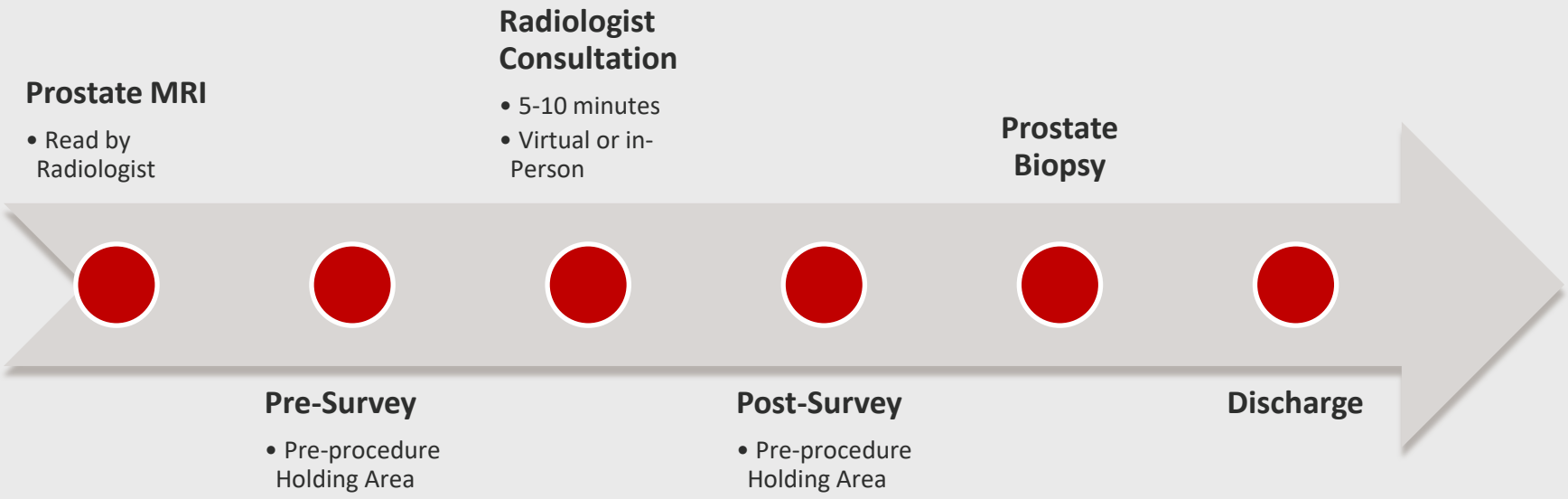
Virtual and in-person consultations in the pre-procedure holding area for patients awaiting image-guided prostate biopsy – discussed basic anatomy, identification of prostate lesions on MRI and their implications (Fig. 1)

Cumulative link mixed models via Laplace approximation were utilized to analyze questions with ratings (rating scale of 1-5) as outcomes

Generalized linear mixed-effects models were used for dichotomous responses

Statistical models were adjusted for age and race/ethnicity

Figure 1: Timeline of Radiologist Consultation



Results

- 25 patients analyzed

- **Pre-Intervention:**
  - All patients had previously had a prostate MRI, either once (n=15, 60%) or more than once (n=10, 40%), however majority had never discussed the results of their MRI with a radiologist (n=19, 76%)
  - Speaking with a radiologist prior to prostate biopsy significantly decreased the level of anxiety (OR 0.07, 95% CI 0.01 – 0.42, p=.003)
- **Post-Intervention:**
  - Nearly all patients reported satisfaction with the radiologist consultation, with 23 patients (96%) stating that it was very helpful, and all patients stating they would like the option to discuss results of their prostate imaging with a radiologist in the future
  - Nearly all patients stated they were likely to return to our department knowing the availability to speak to a radiologist about their MRI was an option (n=21, 88%)
  - A trend towards improved understanding of the role of the radiologist and prostate MRI was observed post-consultation, though statistically insignificant (p=0.134 and p=0.2, respectively)

- When comparing the survey outcomes pre- and post-consultation and controlling for age and race/ethnicity, radiology consultation had a statistically significant positive effect on patient's understanding of prostate cancer with patients reporting improved/higher level of understanding (p=.04)

- Most patients reported preference for discussing imaging results with a radiologist or both the radiologist and referrer (n=21, 88%), however the intervention did not have a statistically significant impact on patients' preference (p=0.1)

Conclusions

Our study sought to understand the effects of radiology consultation. We learned that the intervention improved quality of care by improving patient's understanding of their illness and by lowering patient anxiety prior to image-guided biopsy.

While our study had limited sample size, the findings are supportive of action in favor of implementation of this program, particularly given minimal time requirements and virtual capabilities.

Acknowledgements

Dr. Robert J Min
John A. Evans Professor of Radiology
Chair of Radiology and Radiologist-in-Chief
President of Weill Cornell Imaging at NewYork-Presbyterian
President & CEO of Weill Cornell Medicine Physician Organization

and

Bradley B. Pua, M.D., FSIR
Chief, Interventional Radiology
for their support of this program.

References

1. Pahade J, Couto C, Davis RB, Patel P, Siewert B, Rosen MP. Reviewing imaging examination results with a radiologist immediately after study completion: patient preferences and assessment of feasibility in an academic department. AJR 2012; 199:844–851
2. Miller P, Gunderman R, Lightburn J, Miller D. Enhancing patient's experiences in radiology through patient-radiologist interaction. Acad Radiol 2013; 20:778–781
3. Gutzeit A, Heiland R, Sudarski S, et al. Direct communication between radiologists and patients following imaging examinations. Should radiologists rethink their patient care? *Eur Radiol*. 2019;29(1):224-231. doi:10.1007/s00330-018-5503-2
4. Gutzeit A, Sartoretti E, Reisinger C, et al. Direct communication between radiologists and patients improves the quality of imaging reports. *Eur Radiol*. 2021;31(11):8725-8732. doi:10.1007/s00330-021-07933-7
5. Miller LS, Shelby RA, Balmadrid MH, et al. Patient anxiety before and immediately after imaging-guided breast biopsy procedures: impact of radiologist-patient communication. *J Am Coll Radiol JACR*. 2013;10(6):423-431. doi:10.1016/j.jacr.2012.11.005


Weill Cornell Medicine
NewYork-Presbyterian