How to Design a "Fabulous" Scientific Poster

Marlene Berro, MS, RAC
Office of Ethics and Compliance
University of California, San Francisco
What is a Scientific Poster

- A scientific poster is concise overview of your research project - 42 x 42 for DDCF National Meeting
- Title - try and keep it short if possible
- Introduction - invitation to read your poster; can be in bullets or short paragraphs
- Methods - description of methods used; can include graphics, flow charts etc.
- Results - if using tables, please try and keep them short
- Discussion of results - try to use bullets with as little punctuation as possible
- References - can be in a much smaller font and optional
- Acknowledgement of support - grant wording and/or thanking people
Selection of Malaria Parasites with Decreased Drug Sensitivity in Tororo, Uganda

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²Infectious Disease Research Collaboration, Makerere University, Kampala, Uganda

Introduction

- Uganda has a high burden of malaria, with over 70,000 deaths per year among children under 5 years and 40% of outpatient admissions attributed to malaria.

- The vast majority of infections are caused by the parasite Plasmodium falciparum.

- Anti-malarial drugs which were once first line treatments, including chloroquine and antifolate medications, now have widespread resistance.

- The current first line treatments for malaria are artemesinin combination therapy (ACTs), utilizing a potent, short-acting artemisinin and a long-acting partner drug.

- Surveillance on decreased drug sensitivity to ACTs is key in understanding and preventing future development of drug resistance.

Results (continued)

- Drug IC50s for parasites causing malaria within 60 days of a child’s prior treatment with AL were compared with IC50s for parasites causing malaria in children with no prior treatment in the previous 60 days.

- Recent treatment was defined as treatment within the past 60 days, based on prior research indicating that selection for genetic polymorphisms in parasite drug resistance genes occurs up to 60 days after treatment with AL.

Statistical Analysis

- For each episode of malaria in the cohort study, IC50 results were divided into those from patients with recent treatment or no recent treatment with AL.

- IC50 data were non-parametric, so we chose to use log IC50 values for analysis.

- We utilized a linear regression model with generalized estimating equation (GEE) to account for potential correlation between IC50 values for the same participant at different episodes of malaria.

- Two-sided p-values were calculated and p < 0.05 was considered statistically significant. Statistical analyses were performed using STATA Version 10 (College Station, TX).

Summary and Conclusions

- Analysis of malaria parasites from over 200 clinical samples revealed a statistically significant association between decreased parasite sensitivity to lumefantrine and recent treatment for malaria with the ACT medication artemether-lumefantrine.

- This finding may indicate that residual lumefantrine concentration in the blood stream selects for less sensitive parasites.

- This would imply that use of the first line malaria treatment, artemether-lumefantrine, selects for resistance in recurrent falciparum infections.

- However, the absolute difference in lumefantrine drug sensitivity between groups was not high.

Acknowledgments

This project was supported by a grant from the Doris Duke Charitable Foundation to UCSF to fund Clinical Research Fellow Jessica Bloome. Thanks to my mentor, the laboratory staff in both Uganda and San Francisco, and the CTSI faculty and staff at UCSF.

Observations

<table>
<thead>
<tr>
<th>Parasite</th>
<th>Mean IC50 (nM)</th>
<th>Median IC50 (nM)</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Recent AL</td>
<td>53.4</td>
<td>38.1</td>
<td>132</td>
</tr>
<tr>
<td>Recent AL</td>
<td>15.4</td>
<td>12.6</td>
<td>136</td>
</tr>
<tr>
<td>Lumefantrine</td>
<td>108</td>
<td>53</td>
<td>158</td>
</tr>
<tr>
<td>No Recent AL</td>
<td>4.4</td>
<td>1.5</td>
<td>125</td>
</tr>
<tr>
<td>Recent AL</td>
<td>2.3</td>
<td>1.7</td>
<td>127</td>
</tr>
<tr>
<td>DHA</td>
<td>2.1</td>
<td>1.7</td>
<td>107</td>
</tr>
<tr>
<td>No Recent AL</td>
<td>400.1</td>
<td>298.4</td>
<td>131</td>
</tr>
<tr>
<td>Recent AL</td>
<td>327.8</td>
<td>272.4</td>
<td>51</td>
</tr>
<tr>
<td>Chloroquine</td>
<td>108.9</td>
<td>78.6</td>
<td>151</td>
</tr>
<tr>
<td>No Recent AL</td>
<td>454.5</td>
<td>381.1</td>
<td>136</td>
</tr>
<tr>
<td>Recent AL</td>
<td>341.1</td>
<td>294</td>
<td>105</td>
</tr>
<tr>
<td>Regressive coefficient: -0.323</td>
<td>P = 0.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regressive coefficient: 0.113</td>
<td>P = 0.128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regressive coefficient: 0.074</td>
<td>P = 0.467</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regressive coefficient: 0.161</td>
<td>P = 0.023 **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regressive coefficient: 0.106</td>
<td>P = 0.395</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regressive coefficient: 0.324</td>
<td>P = 0.056</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Creating an effective poster requires time and planning.

What's my message?

Everything you put on your poster relates to a carefully crafted message.

- You must be able to state your main point(s) and conclusion(s) clearly and succinctly.
- \textit{All} visuals and text should relate to those points and conclusions.
Family Communication of Genetic Test Results and Uptake of Genetic Testing in a Diverse Population of BRCA1 and BRCA2 (BRCA1/2) Carriers

Julia Fehniger BA1-2, Feng Lin MS1, Mary S. Beattie MD, MAS1, Galen Joseph PhD3, and Celia Kaplan DrPH4

1University of California, San Francisco Cancer Risk Program, Department of Medicine, and Department of Epidemiology and Biostatistics 4University of Michigan Medical School

Objectives

- Determine predictors of sharing BRCA1/2 results with relatives and BRCA1/2 testing of at-risk relatives in diverse populations
- Examine the independent predictive value of testing for a known family mutation and a personal history of breast/ovarian cancer on sharing and testing rates among relatives

Introduction

- Individuals testing positive for a BRCA1/2 mutation may have several relatives at-risk for carrying the family mutation. Index, or first-identified, BRCA1/2 carriers may differ from family members who subsequently test.
- In order for relatives to undergo genetic testing for a known BRCA1/2 mutation in their family, they must first be informed about their relative’s positive result.
- Communication of BRCA1/2 results with relatives and uptake of genetic testing may differ among index testers and family testers. No studies of family communication and family testing have sampled from a diverse population of BRCA1/2 mutation carriers.

Methods

We interviewed 73 individuals identified as BRCA1/2 mutation carriers between 2003 and 2011 at either San Francisco General Hospital or the University of California San Francisco. Our study population included all BRCA1/2 carriers identified at SFGH, all non-white carriers identified at UCSF, and a random sample of white carriers identified at UCSF.

We collected self-reported participant sociodemographics and personal cancer history. Relatives were eligible for sharing if they were at least 16 years old at the time of the survey. Relatives were eligible for testing if they were ≥25 at the time of the survey, and had at least a 25% chance of carrying the family mutation.

We used Fisher’s exact test or the student’s t-test to compare baseline participant characteristics. Generalized estimating equations were used to identify univariate and multivariate predictors of sharing and testing. All tests were two-tailed with α = 0.05.

Results

- The study response rate among patients contacted was 66%
- Family testers were more likely to be younger, unaffected by cancer, white, of Ashkenazi Jewish descent, born in the United States, employed and have greater than a high school education compared to index testers (Table 1)
- 73 participants reported 606 relatives eligible for sharing BRCA results and 514 relatives eligible for BRCA testing
- Rates of sharing and testing were higher for first-degree, compared to second-degree relatives (Figure 1)
- Overall, participants shared results with 73% of eligible relatives. Only 31% of eligible relatives underwent genetic testing

Figure 1: Rates of Sharing and Testing for First- and Second-Degree Relatives

<table>
<thead>
<tr>
<th>Participant Characteristics</th>
<th>Index testers (n=606)</th>
<th>Family tester (n=514)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>45.3 (14.1)</td>
<td>49.8 (13.7)</td>
</tr>
<tr>
<td>Time since test (years, mean (SD))</td>
<td>20.7 (11.2)</td>
<td>27.3 (16.0)</td>
</tr>
<tr>
<td>History of breast/ovarian cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast cancer</td>
<td>32 (5.4%)</td>
<td>39 (7.6%)</td>
</tr>
<tr>
<td>Ovarian cancer</td>
<td>71 (11.8%)</td>
<td>73 (14.3%)</td>
</tr>
<tr>
<td>Male</td>
<td>17 (2.8%)</td>
<td>12 (2.3%)</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>410 (67.5%)</td>
<td>364 (71.3%)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>89 (14.7%)</td>
<td>81 (15.8%)</td>
</tr>
<tr>
<td>Female</td>
<td>20 (3.3%)</td>
<td>19 (3.7%)</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>15 (2.5%)</td>
<td>13 (2.6%)</td>
</tr>
<tr>
<td>Employer</td>
<td>258 (42.5%)</td>
<td>250 (48.8%)</td>
</tr>
<tr>
<td>Volunteer</td>
<td>20 (3.3%)</td>
<td>16 (3.1%)</td>
</tr>
<tr>
<td>Military</td>
<td>10 (1.6%)</td>
<td>7 (1.4%)</td>
</tr>
<tr>
<td>Job status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>566 (93.9%)</td>
<td>482 (94.5%)</td>
</tr>
<tr>
<td>Part-time</td>
<td>40 (6.6%)</td>
<td>32 (6.3%)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed high school</td>
<td>270 (44.5%)</td>
<td>249 (48.8%)</td>
</tr>
<tr>
<td>Completed some college</td>
<td>330 (54.7%)</td>
<td>292 (57.0%)</td>
</tr>
<tr>
<td>Completed college degree</td>
<td>26 (4.2%)</td>
<td>23 (4.5%)</td>
</tr>
</tbody>
</table>

Sharing Results

Table 1: Baseline Characteristics

<table>
<thead>
<tr>
<th>Sharing Results</th>
<th>Index testers (n=606)</th>
<th>Family tester (n=514)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>73%</td>
<td>70%</td>
</tr>
<tr>
<td>First-degree relatives</td>
<td>70%</td>
<td>73%</td>
</tr>
<tr>
<td>Second-degree relatives</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>Share</td>
<td>73%</td>
<td>70%</td>
</tr>
<tr>
<td>Test</td>
<td>70%</td>
<td>67%</td>
</tr>
<tr>
<td>Share &amp; Test</td>
<td>70%</td>
<td>67%</td>
</tr>
</tbody>
</table>

In adjusted analyses, neither testing for a family mutation or a personal history of breast/ovarian cancer and relatives of family testers were not more likely to know about the participant’s mutation

Conclusions

- Neither a personal history of breast/ovarian cancer or having tested for a known family mutation was significantly associated with sharing or testing among relatives
- Race/ethnicity is a more important predictor of sharing and testing; relatives of African American participants are significantly less likely to know about the family mutation or to pursue testing themselves

Acknowledgments

Many thanks to the patients and genetic counselors at the UCSF Cancer Risk Program for their participation and guidance throughout this project.

This project was supported by the Dick Dudley Charitable Foundation to fund UCSF Research Fellow Julia Fehniger. Special thanks to Claudia Guerra and Galen Joseph at UCSF; UCSF CTR/CTSI and Marlene Berns at UCSF.
An effective abstract is your first opportunity to hone your message. An abstract is a succinct description of your work. It should:

- **Explain why your work is important** - set the context and pre-empt the question "So what?"

- **Describe the objective(s) of your work.** What are you adding to current knowledge?

- **Briefly explain the methods.** Unless the research is about methods, this should not be a major focus of your abstract (or your poster).

- **Succinctly state results, conclusions, and recommendations.** This is what most people want to know. Do not say "We present the results of our study and recommendations for action" - tell them what you found and recommend!
It Comes Down to Money: Why Women Decide Not to Undergo Fertility Preservation

Erin Ebbe Niemaski MD1, Sai-wing Chan2, Joseph Letourneau MD3, Chia-ning Kao MS2, Audra Katz RN2, Jeff Belkora PhD2, Mitchell Rosen MD2
1NYP Weill Cornell Department of Obstetric and Gynecology, 2University of California San Francisco Department of Obstetrics, Gynecology and Reproductive Sciences, 3UNC Department of Obstetrics and Gynecology, 4University of California San Francisco Department of Surgery and Health Policy Studies

Abstract

Women with medically induced infertility may significantly compromise long-term prognosis. It is estimated that only 2-5% of women receive reproductive counseling from a fertility specialist before undergoing cancer therapy. Of women who do get counseled, action to undergo FP may still be low. We sought to determine what barriers prevent women from undergoing FP after a consultation with a fertility specialist.

Introduction

Improvements in early screening and therapeutic techniques have led to improved cancer survival. This has encouraged the oncology community to place greater emphasis on reproductive health as an important survivorship issue. With increasing knowledge of how local and systemic cancer therapies can lead to acute ovarian failure, infertility and premature menopause, more women are consulting reproductive specialists to discuss preserving their fertility prior to treatment. Previous studies have shown that concerns of infertility and premature menopause are some of the most important survivorship issues for young women, with up to 29% of women making future life-saving treatment decisions based on fear of infertility or premature menopause. Multiple barriers exist for women to be seen by a fertility specialist, yet studies have shown that few women may undergo FP even after counseling.

Specific Aims

We sought to determine what barriers prevent women from undergoing FP after a consultation with a reproductive specialist.

Methods

From January 2011 to present, reproductive aged women with cancer who presented to a reproductive health clinic for FP counseling were consented to participate in a prospective study. Patients complete surveys at 4 time points: before and after a new patient consultation, at the time they make a decision about FP and 6-8 months later. Possible reasons included: risks to fertility from cancer therapy, partner status, lack of insurance coverage, age, delay of cancer treatment, and future pregnancy’s effect on long term prognosis.

Results

To date, 132 women have been recruited (89% accrual rate). In our study 53.8% of women did not undergo FP. Of those who completed the survey at time point 3, we found that 93.75% (30/32) of women identified cost (p=0.005) and lack of insurance coverage (p=0.005) as reasons for not undergoing FP. Pregnancy’s effect on long term prognosis trended towards significance (p=0.085). Other concerns such as: risks to fertility from cancer therapy (p=0.529), partner status (p=0.315), age (p=0.552), or delaying the start of cancer therapy (p=0.552), were not found to be significant.

Discussion

This study suggests that after a consultation with a fertility specialist, money and lack of insurance coverage are the two most significant barriers to undergoing FP. Increased financial support services and insurance coverage for women with medically induced infertility may significantly improve access to advanced reproductive technologies.

Conclusions

This study suggests that after a consultation with a reproductive health specialist, the most significant barriers for women to undergo FP were cost and lack of insurance coverage. Increased financial support services and insurance coverage for women with medically induced infertility may significantly improve access to advanced reproductive technologies.

## References


## Acknowledgments

This publication was supported by NIH/NCRR/DO UCSC-CTSI Grant Number 5UL1NR000149. Its contents are solely the responsibility of the authors and do not represent the official views of the NIH.

Many thanks to UCSF Office of Student Research, PACCTR/CTSI at UCSF, Joel Palefsky, Peter Chiu-Hong, Carly Hunter, Marlene Berno. In addition, the staff and patients of the UCSF Center of Reproductive Health.

Contact Information: Dr. Erin Niemaski, erin.ebbel@gmail.com

Clinical and Translational Science Institute / CTSI
Keep Graphics Clean and Simple

Focus on your data

No

Yes
Improving Surgical Risk Prediction in Brain Arteriovenous Malformation

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1Center for Cerebrovascular Research, Department of Anesthesia and Perioperative Care, Institute for Human Genetics, Departments of
2Neurological Surgery, 3Epidemiology and Biostatistics, and 4Neurology, University of California, San Francisco

Introduction

- Brain arteriovenous malformations (BAVMs) are pathological tangles of cerebral blood vessels that are prone to rupture, imparting a high risk of intracerebral hemorrhage (ICH). Microsurgical resection is considered definitive treatment.
- Several surgical risk grading scales exist, including the gold standard Spetzler-Martin (SM-5) and SM-supplemented (SM-Supp) scales proposed by our group.

Methods

- Study Population: 483 consecutive patients undergoing microsurgical BAVM resection between 2000-2010 with at least one postoperative visit formed the overall study group. Of these, 393 constituted the development cohort for the SM-Supp scale, a validation cohort comprised 183 recently added patients. Of these, 341 patients had genotype data and were included in both the development and validation cohorts.
- Genotyping: Done by PCR-based assay or microarray (Affymetrix SNP Array 6.0).
- Outcome: Dichotomous outcome, with poor outcome defined as worsening of the modified Rankin Scale (mRS) score.
- Predictors: Primary predictors of poor outcome were increased SM-Supp score and Met/Met or Met/Val* BDNF Val66Met genotype. Other predictors chosen based on clinical/statistical significance include patient age, sex, race/ethnicity, BAVM size, deep venous drainage, eloquence, Spetzler-Martin score, and time between surgery and last follow-up.

Statistical Analysis

- Model comparisons were evaluated by classic Area Under the ROC curve (AUROC) analysis and Net Reclassification Index (NRI). NRI quantifies the correct movement in risk reclassification when comparing two models.
- A significant interaction (p=0.03) of Val66Met polymorphism and hemorrhagic presentation existed; thus, ruptured and unruptured patients were considered separately. Multivariate logistic regression analysis was used to establish associations between genotype and outcome.

Results

- Continuous Net Reclassification Index by Outcome Group
  - Good Outcome: Total score 1-5
  - Bad Outcome: Total score 6-10

- Model comparisons were evaluated by classic Area Under the ROC curve (AUROC) analysis and Net Reclassification Index (NRI).

Results (continued)

- Continuous NRI = 64% (p<0.001). SM-Supp, when reclassifying patient risk compared to SM-5, did so correctly 64% of the time.
- Adding BDNF Val66Met genotype to a model of the SM-Supp model increased AUROC to 64% (p<0.001).

Conclusions

- The SM-supplemented scale performed equally well predicting outcomes in an independent dataset, and demonstrated superior discrimination and risk reclassification when compared to Spetzler-Martin scale.
- The Met allele of BDNF Val66Met is associated with increased risk of poor functional outcome after BAVM resection in unruptured patients.
- The SM-supplemented scale should be considered for clinical prediction of surgical risk in BAVM patients.

Acknowledgments

This work was supported by a grant from the Doris Duke Charitable Foundation to UCSF to fund Clinical Research Fellow Erick M. Westbroek, NIH 1K23NS058357 (H.K.), R01NS034949 (W.L.Y.), and P01NS044155 (W.L.Y.). We thank all of the patients, caregivers and volunteers for their participation in our research.
Increased phosphorylation of the MAPK/ERK pathway is associated with social impairment in BTBR mice

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Department of Neurology, University of California, San Francisco, CA

BACKGROUND

- Advances in autism genetic and in the study of animal models are providing evidences to suggest that MAPK/ERK (extracellular-signal-regulated kinase) pathway is altered in autism.
- Dysregulated MAPK/ERK signaling pathway has been found in the brains of adult BTBR T+ tf/J mice, a strain exhibiting behaviors with face validity to autism.

OBJECTIVE

To evaluate whether dysregulation of the ERK signaling pathway directly correlates with autism-relevant traits in autistic mice model

METHODS

1. We intercrossed BTBR and C57BL/6J mice and assessed social behaviors in 400 F2 offspring.
2. The expression levels and state of phosphorylation of ERK and related kinases were evaluated in the prefrontal cortex of F2 mice that lie on the two extremes of the social behavior spectrum.

RESULTS

Fig 1: Increased activity levels of MAPK/ERK in BTBR mice

A. Increased RAS & Phospho-ERK levels in the brains of newborn BTBR vs. B6 (p=0.04, p=0.001, respectively), using western blot analysis. No significant change in total ERK levels was seen (p=0.8).

B. Increased RAS & Phospho-ERK levels in the brain of adult BTBR vs. B6 (P=0.002 & p=0.02, respectively), using western blot analysis. No significant change in total ERK levels was observed (p=0.16).

Fig 2: Association between activity levels of MAPK/ERK and social behaviors

- Significant correlation between phosphorylation levels of MEK/ERK and juvenile approach front behavior (p=0.008, p=0.03, respectively), when comparing mice that represent the extremes of behavior (normal & impaired). No difference in total RAS, MEK and ERK levels were observed.
- We also tested p-MEK and p-ERK levels in other social measures (Juvenile push crawl, Juvenile nose to nose, Juvenile follow, Self grooming, Novel mouse sniff, Total juvenile interaction), but did not find a statistically significant difference.

Fig 3: Phosphorylated MAPK/ERK levels correlate across brain and spleen

- Significant association of P-MEK, MEK and ERK levels between brain and splenic lymphocytes of BTBR vs. C57BL/6 (p=0.004, p=0.0006, p=0.04)

CONCLUSIONS

- Levels of phospho-ERK were significantly increased in the brain of newborn and adult BTBR vs. C57BL/6J (B6) mice.
- We observed a significant correlation between juvenile social behavior impairment and activity levels of MAPK/ERK signaling pathway.
- It is possible that phosphorylation levels of MAPK/ERK kinases in peripheral blood lymphocytes may serve as a biomarker in clinical studies in autism

References

This publication made possible by Grant Number UL1 RR024131 from the National Center for Research Resources (NCRR), a component of the National Institutes of Health (NIH), and NIH Roadmap for Medical Research. Its contents are solely the responsibility of the authors and do not necessarily represent the official view of NCRR or NIH. Information on NCRR available at http://www.ncrr.nih.gov.

Acknowledgments

This publication made possible by Grant Number U10 MH082413 from the National Center for Research Resources (NCRR), a component of the Pastorial Institute of Health (NIH), and NIH Roadmap for Medical Research. Its contents are solely the responsibility of the authors and do not necessarily represent the official view of NCRR or NIH. Information on NCRR available at http://www.ncrr.nih.gov.

To Re-engineering the Clinical Research Enterprise can be obtained from http://nihroadmap.nih.gov/clinicalresearch/overview-translational.asp.
Analysis

- Qualitative analysis will be conducted using Atlas.ti.
- Quantitative data will be coded into themes, and sub-themes.
- Data analysis will include comparisons of youth and adult perceptions, comparisons based on gender, and inter and intra-county comparisons, among others.

Case Studies of Hot Spot and Cool Communi"es

Preliminary Results (continued)

Inequality

"...the city doesn’t pay attention to this part of the city because there’s so many low income people...I don’t think it’s right. Everyone deserves to live someplace equal.

...but we don’t do anything about it. Hispanics – they feel like their parents are afraid to speak up because they are immigrants – their history is not so clean. They may be unable to speak English so they might feel they need help...They think they don’t have rights." - Female South Central Focus Group (ages 15-18)

Perceptions of Teenage Pregnancy

"...we come here and fend well-adjusted young women having kids...I’m trying to say is that there’s a big element of cultural expectations...When I see Latinas and they see their next step in life is motherhood not college...if you’re surrounded in a community in which parents don’t think it’s a big deal...most of the teenagers I meet, it’s almost like “okay this is the next step.” She’s supposed to become a mother, and it’s a welcome thing. I think it has to do that it’s an immigrant community.” - Family Medicine Physician

"There are certain aspects of the community that perpetuates this eternal welfare. Your job is to have babies, every baby you have is worth so much money. If you believe in that mindset then you teach that. All you have to do is have some babies, collect the welfare. You’ll get subsidized housing...all of these things, that’s money, that’s your job. That’s what’s perpetuated and taught to a lot of young ladies. I call them formal informal schools. There are people who take you through the entire process..." - Vice President of Youth Programming, Community Based Organization

"Taboo. No Hispanic parent wants their daughter to be pregnant at such a young age. Among the older folks, it’s like no, we want you to work hard and go to college. Latino community gets slapped with – oh we love your younger children (babies of teens), want them to get pregnant, but no, they want them to go on, get a higher degree. " - Community Member/Activist

Misconceptions About Birth Control

"It has an effect. One girl I know, she was super skinny, she was on birth control for three months and she got big...

...it’s like weed, it makes you munchies.!

...I went to the doctor one day, and he said, once a female gets on birth control she’s going to be addicted. A lot of girls use it a lot, they take it too many per day...

...same girl they take it too far, they use a lot of things at once. They take birth control, put a condom on, and a patch." - Male South Central Focus Group (ages 15-18)

Preliminary Conclusions

- Safety is a constant concern.
- Youth are impacted and frustrated by the inequality they see in their neighborhoods.
- Perceptions of teenage pregnancy are influenced by cultural and community norms.
- There are multiple reasons why teenagers do or don’t use birth control, and why teenagers get pregnant.
- Both LA communities are experiencing a demographic shift, with more African American people moving out, and more Latino people moving in.

Acknowledgments

This work was supported by a grant from the Doris Duke Charitable Foundation to the University of California, San Francisco to fund Clinical Research Fellow Sarah Tapos.

Many thanks to the Clinical and Translational Research (CTR) Program, Dr. Peter Chin-Hong, Dr. Joel Farell, Cecely Hunter, Ruby Singh, Martine Bern, and faculty and colleagues in the CTR Program at UCSF.
Reconstitution Inflammatory Syndrome in Sub-Saharan Africa

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1University of California, San Francisco; 2Infectious Diseases Institute, Kampala, Uganda; 3Uganda Cancer Institute, Kampala, Uganda; 4Uganda Virology Research Institute, Entebbe, Uganda

Background

- Immune reconstitution inflammatory syndrome (IRIS) can occur in HIV-infected patients upon initiation of antiretroviral therapy (ART).
- IRIS, which is believed to result from a newly reconstituted immune system exuberantly responding to residual opportunistic pathogens, can vary in severity from minor signs and symptoms to death.
- In sub-Saharan Africa, in addition to the AIDS epidemic, there is also a high prevalence of infection with Kaposi's sarcoma-associated herpesvirus, the virus that causes Kaposi's sarcoma (KS).
- KS has subsequently become the most common cancer in the region.
- Now that ART is becoming available in Africa, it is important to investigate the frequency and severity of IRIS in the context of treating patients with AIDS-related KS.

Objectives

To estimate the frequency, spectrum, and severity of IRIS in patients with AIDS-related KS who initiate ART.

Methods

- In Kampala, Uganda, we investigated the occurrence of KS-IRIS in the context of a randomized clinical trial (the ARKS Study) comparing two ART regimens given to patients with AIDS-related KS.
- Participants were examined prior to therapy and then every 4 weeks for 48 weeks.
- Given limited prior information regarding KS-IRIS, we used a pilot phase to develop a protocol to capture events suspected to represent KS-IRIS.
- A questionnaire was designed to record relevant signs and symptoms.
- Visual changes in cutaneous and oral lesions were documented with digital photography.

Self-Limiting Cutaneous and Oral Manifestations of KS-IRIS

- Pre-ART
- Week 4
- Week 40
- Pre-ART
- Week 4
- Week 20

KS-IRIS Manifesting as Recurrent Pulmonary Effusion

- Pre-ART
- Week 6
- Week 14
- 3 days post-thoracentesis

Acknowledgements

Many thanks to all the wonderful people and study partners at the Infectious Diseases Institute in Kampala, and to the UCSD Department of Epidemiology and Biostatistics. I would also like to express gratitude to the Doris Duke Foundation for funding this amazing international experience. Much appreciation to Joel Palefsky, Peter Chin-Hong, Cecily Hunter and Marlene Berro.

Conclusions/Implications

- In sub-Saharan Africa, KS-IRIS is clinically relevant and heterogeneous.
- The manifestations of KS-IRIS are sometimes self-limiting, sometimes they are underscoring the importance of real-time diagnostic tests to differentiate self-limiting from natural KS disease.
- While findings of suspected KS-IRIS are sometimes self-limiting, sometimes they are underscoring the importance of real-time diagnostic tests to differentiate self-limiting from natural KS disease.
What Is the Optimal Interval of Mammography following Lumpectomy?

VA Arasu¹; BN Joe¹; NM Lvoff¹; JWT Leung¹; RJ Brenner¹; C Flowers²; B Chang¹; EA Sickles¹

¹Department of Radiology and Biomedical Imaging, Division of Women’s Imaging, ²Department of Women’s Health, University of California, San Francisco USA

**Introduction**

Lumpectomy is standard treatment for early breast cancer
- Conserves breast through local excision of cancer
- Used in stage 0 – stage 2 breast cancer
- Equivalent efficacy to mastectomy

Patients have a high risk for recurrence
- Baseline risk of breast cancer in healthy women: 0.5% per year
- Recurrence risk after lumpectomy: 1-2% per year
- Patients with recurrence have 3x mortality rate
- Higher stage recurrence predicts worse prognosis
- Stage 2 recurrence has 50% worse prognosis than stage 1

Optimal interval for surveillance is unknown
- Clinical exam and mammography best methods to detect recurrence
- No evidence for interval using mammography
- Interval is variable in clinical practice
  - Cancer organizations: Every 12 months
  - UCSF: Every 6 months for 5 years

**Methods**

**Patients and Data Collection**
- Retrospective review from 1997 – 2008 of mammograms following lumpectomy
- Collected from UCSF Mammography Database
- Predictor: 6-month or 12-month interval is time between the last negative mammogram and positive mammogram that detects recurrence (Fig. 1)
- Study Endpoint: Cancer recurrence using TNM staging criteria

**Results**

Patient Characteristics
- 2,329 women, 10,750 exams identified
- 8,421 mammogram exams included
- 2,545 exams excluded
- No significant baseline differences in risk of breast cancer by age, family history

Cancer Recurrence
- 109 recurrences over 5 years (Table 1)
- No recurrences beyond stage 2
- 1.3% vs. 1.2% recurrences/yr in 6 vs. 12-month

<table>
<thead>
<tr>
<th>Stage 0 (%)</th>
<th>Stage 1 (%)</th>
<th>Stage 2 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-month</td>
<td>31 (33%)</td>
<td>57 (61%)</td>
</tr>
<tr>
<td>12-month</td>
<td>4 (27%)</td>
<td>7 (47%)</td>
</tr>
</tbody>
</table>

**Statistical Analysis**

Fisher’s exact test comparing the proportions in stage 0+1 vs. stage 2+3+4
- A threshold between stage 1 and 2 chosen *a priori* because it represents the largest drop in prognosis

**Conclusion**

- Mammogram exams at 6-month intervals detects recurrence significantly earlier
  - Number needed to screen (NNTS) = 81 to prevent stage 0/1 → stage 2
- Recurrences detected and treated at earlier stage may lead to better overall survival
- Firs evidence that 6-month exam intervals following lumpectomy is optimal
- May change guidelines by cancer organizations
- Establishing clinical efficacy will require an RCT

**Acknowledgments**

This research was supported by an NIH TL1 RR024129 and Doris Duke Charitable Foundation Award #2007084. Many Thanks to Joel Palefsky, Peter Chin-Hong, Cecily Hunter and Marlene Berro
Define your message

All visuals and text should relate to a succinctly stated message.

Know your message! What is the one thing you want your audience to learn?

Be bold & be explicit.

• If you have an interesting result, state it explicitly in the title
  
  *The Effect of X on Y*
  
  or *Substance X Induces Y-cells*

• Make the strongest statements your data will support
  
  Why soft-peddle exciting findings?
Long-Term Complications of Isolated Conduction Disease in the Left Bundle Branch

Mala C. Mandyam¹, Elsayed Z. Soliman², Susan R. Heckbert³, Eric Vittinghoff⁴, Thomas A. Dewland¹, Gregory M. Marcus¹

¹Electrophysiology Section, Division of Cardiology and ²Department of Epidemiology and Biostatistics, University of California at San Francisco, San Francisco; ³Department of Epidemiology and Prevention, Wake Forest University School of Medicine, Winston-Salem; ⁴Department of Epidemiology, University of Washington, Seattle.

Introduction

• The left bundle branch delivers and coordinates impulse conduction in the left ventricle of the heart.

• Conduction disturbances of the left bundle branch are found in over 5% of the elderly population.

• When found in older individuals without overt clinical cardiovascular disease, isolated left bundle branch conduction delay likely results from an aging and fibrosed conduction system.

• This is known as Lev’s or Lenegre’s disease, and it may reflect a general propensity to fibrosis in the heart.

• It is unknown whether left bundle branch conduction delay found in isolation is associated with an increased risk of atrial fibrillation (AF) and congestive heart failure (CHF) — clinical conditions that are associated with atrial and ventricular fibrosis, respectively.

Specific Aim:

To determine whether conduction disturbances of the left bundle branch, including left bundle branch block (LBBB), and left anterior (LAFB) and left posterior (LPFB) fascicular block, are associated with development of AF, CHF, and risk of death in an elderly population free of overt clinical cardiovascular disease.

Methods

• Study population: the Cardiovascular Health Study (CHS)
  • An NHLBI-sponsored cohort established in 1989
  • Sampled from Medicare county lists from CA, PA, NC, and WA states
  • Includes 60% women, >10% African-American
  • Semi-annual patient contact starting in 1989 and continuing today

• Exclusion criteria: baseline myocardial infarct, CHF, AF, coronary heart disease, diabetes, and hypertension

• LBBB, LAFB, and LPFB were assessed for on baseline 12-lead electrocardiograms (ECGs) done on all participants.

• Incident AF, CHF, and death were obtained via clinic visits, patient contact, obituaries, and discharge diagnoses.

Results

• After excluding participants with baseline clinical heart disease, 2,354 individuals remained for analysis (Table 1).

• Four hundred and seventy-four cases of AF occurred over 16 years of follow-up, while 501 participants developed CHF and 1,415 died over 19 years of follow-up.

• Participants with LAFB and LBBB had significantly worse event-free and overall survival (Figure 1)

Table 1: Baseline Characteristics of Participants without Clinical Heart Disease in the Cardiovascular Health Study

<table>
<thead>
<tr>
<th>Variable</th>
<th>No Conduction Disease (n=1,990)</th>
<th>LAFB (n=87)</th>
<th>LPFB (n=85)</th>
<th>LBBB (n=154)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td>72 (68-75)</td>
<td>72 (68-75)</td>
<td>70 (67-74)</td>
<td>73.5 (68-79)</td>
</tr>
<tr>
<td>Sex (%)</td>
<td>49% (50%)</td>
<td>49% (50%)</td>
<td>50% (50%)</td>
<td>51% (50%)</td>
</tr>
<tr>
<td>White (%)</td>
<td>37% (39%)</td>
<td>37% (39%)</td>
<td>37% (39%)</td>
<td>37% (39%)</td>
</tr>
<tr>
<td>Black (%)</td>
<td>47% (47%)</td>
<td>47% (47%)</td>
<td>46% (46%)</td>
<td>42% (42%)</td>
</tr>
<tr>
<td>Current smoker (%)</td>
<td>21% (22%)</td>
<td>21% (22%)</td>
<td>24% (26%)</td>
<td>23% (26%)</td>
</tr>
<tr>
<td>Body mass index</td>
<td>25.7 ± 4.2</td>
<td>26.1 ± 4.6</td>
<td>27.3 ± 4.8</td>
<td>20.1 ± 4.5</td>
</tr>
<tr>
<td>Current user (%)</td>
<td>308 (14%)</td>
<td>33 (17%)</td>
<td>32 (19%)</td>
<td>7 (5%)</td>
</tr>
</tbody>
</table>

• LAFB was associated with AF, CHF and death prior to adjustment, and with AF and CHF after adjustment (Table 2). LBBB was associated with AF, CHF, and death both prior to and after adjustment.

Table 2: Unadjusted and Adjusted Hazard Ratios with 95% Confidence Intervals

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Atrial Fibrillation</th>
<th>Congestive Heart Failure</th>
<th>Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAFB</td>
<td>2.07 (1.72-2.5)</td>
<td>2.07 (1.9-2.27)</td>
<td>2.07 (1.9-2.1)</td>
</tr>
<tr>
<td>LPFB</td>
<td>1.38 (1.04-1.8)</td>
<td>1.2 (1.0-1.41)</td>
<td>1.2 (1.1-1.4)</td>
</tr>
<tr>
<td>LBBB</td>
<td>2.79 (1.9-3.4)</td>
<td>2.3 (1.6-3.1)</td>
<td>2.3 (1.6-3.1)</td>
</tr>
</tbody>
</table>

Adjusted for age, sex, race, BMI, and smoking status.

A sensitivity analysis using an alternative definition of LAFB established by the American Heart Association did not meaningfully change associations, despite this more conservative criteria (Figure 2).

Figure 2: Hazard Ratios* (HR) and 95% Confidence Intervals for LAFB Defined by American Heart Association

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Atrial Fibrillation</th>
<th>Congestive Heart Failure</th>
<th>All-cause Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAFB</td>
<td>2.41 (1.97-4.8)</td>
<td>2.41 (1.97-4.8)</td>
<td>2.41 (1.6-4.1)</td>
</tr>
<tr>
<td>LPFB</td>
<td>2.91 (2.4-4.1)</td>
<td>2.91 (2.4-4.1)</td>
<td>2.91 (2.4-4.1)</td>
</tr>
</tbody>
</table>

• LAFB and LBBB are independently associated with risk of AF and CHF in an elderly population without clinical heart disease.

• LBBB is independently associated with death in this population.

• Isolated left bundle conduction delay may be a marker of diffuse myocardial fibrosis.

• In healthy individuals these conduction delays may lead to ventricular dysynchrony and worsening heart function with remodeling.

Conclusions

• LAFB and LBBB are independently associated with risk of AF and CHF in an elderly population without clinical heart disease.

• LBBB is independently associated with death in this population.

• Isolated left bundle conduction delay may be a marker of diffuse myocardial fibrosis.

• In healthy individuals these conduction delays may lead to ventricular dysynchrony and worsening heart function with remodeling.

Translation – Next Steps

• ECG screening in asymptomatic elderly individuals could identify individuals at increased risk for AF, CHF, and death.

• Treatment for secondary prevention of AF and CHF in healthy individuals with isolated conduction delay may play a role.

• Further studies are needed to establish the associations uncovered here and to examine the mechanisms underlying them.

Acknowledgement

The project was supported by the National Center for Research Resources, the National Center for Advancing Translational Sciences, and the Office of the Director, National Institutes of Health through UL1 RR024129. The authors wish to acknowledge the contributions of the individual investigators and the staffs of the Cardiovascular Health Study, and the National Center for Research Resources, the National Center for Advancing Translational Sciences, and the Office of the Director, National Institutes of Health through UL1 RR024129.
Predictors of Persistently Active Rheumatoid Arthritis (PARA) in a Diverse, Dual-Center Longitudinal Cohort

Anisha Chandra Schwarz1, Julie Baker-LePain2, John Imboden2, Mary C. Nakamura2

1UCSF School of Medicine, 2Department of Medicine, University of California, San Francisco, CA

BACKGROUND

Patients with rheumatoid arthritis (RA) respond variably to treatment regimens, and it is not known if we can identify patients at most risk for developing persistently active rheumatoid arthritis (PARA). The American College of Rheumatology (ACR) recommends treating patients to remission or low disease activity, as assessed by measures such as the Disease Activity Score (DAS) and Clinical Disease Activity Index (CDAI). However, some patients do not reach this goal, despite treatment with multiple medications.

We studied patients with PARA in the University of California, San Francisco RA Cohort, a continuous-enrollment, longitudinal observation cohort of over 700 adults with diagnosed RA at the main Parnassus campus and at San Francisco General Hospital.

Prior studies showed that rheumatoid factor (RF), anti-cyclic citrullinated peptide (anti-CCP) antibodies, presence of baseline bone erosion, and genetic factors correlate with poor prognosis in RA. Previous studies of the UCSF RA cohort suggest that patient function and outcomes are affected by ethnic and socioeconomic status. We therefore examined both biological and socioeconomic parameters in the present study.

AIM

Our objective was to identify predictors of persistently active rheumatoid arthritis (PARA) in the UCSF RA cohort.

METHODS

705 patients in the UCSF Rheumatoid Arthritis Cohort (Parnassus & San Francisco General Hospital)

334 patients:

- Anti-CCP+ (RF+ if no CCP)
- At least 3 visits within 42 months with recorded disease activity scores

Patient Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PARA</th>
<th>Controlled</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>52.1 (13.2)</td>
<td>52.7 (15.5)</td>
<td>0.55</td>
</tr>
<tr>
<td>Disease duration</td>
<td>5241 (3281)</td>
<td>4258 (2940)</td>
<td>0.07</td>
</tr>
<tr>
<td>RF Titer</td>
<td>736 (891)</td>
<td>616 (631)</td>
<td>0.93</td>
</tr>
<tr>
<td>Female</td>
<td>89%</td>
<td>80%</td>
<td>0.11</td>
</tr>
</tbody>
</table>
| Non-white ethnicity | 90% | 59% | <0.005*
| Limited English proficiency | 78% | 55% | 0.001* |
| Born abroad | 77% | 55% | <0.005* |
| Currently taking prednisone | 71% | 37% | <0.005* |
| Education | High school | 55% | 13% | <0.005* |
| (some college, associate’s degree, etc.) | | | | |
| Current taking biologic | 44% | 49% | 0.63 |
| Current smoker | 12% | 9% | 0.78 |

Continuous variables are reported as Mean (SD). Categorical variables are reported as percentages.

RESULTS

Self-Reported Ethnicity

<table>
<thead>
<tr>
<th>Variable RA:</th>
<th>PARA</th>
<th>Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 consecutive values of DAS ≥ 3.2 and CDAI ≥ 10</td>
<td>122</td>
<td>55%</td>
</tr>
<tr>
<td>3 consecutive values of DAS ≥ 3.2 or CDAI &lt; 10</td>
<td>658</td>
<td>45%</td>
</tr>
<tr>
<td>Categorical variables are reported as percentages.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continuous variables are reported as Mean (SD). Categorical variables are reported as percentages.

Ethnicity

Non-white Ethnicity

- **Fisher’s Exact Test and Pairwise tests: p<0.005, n=121

Multivariate Regression Model of PARA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Adjusted Odds Ratio</th>
<th>Confidence Interval</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-white Ethnicity</td>
<td>4.45</td>
<td>1.44-13.8</td>
<td>0.010</td>
</tr>
<tr>
<td>Prednisone Use</td>
<td>4.29</td>
<td>1.58-11.64</td>
<td>0.004</td>
</tr>
<tr>
<td>Education ≤ High school</td>
<td>3.24</td>
<td>1.01-10.4</td>
<td>0.049</td>
</tr>
<tr>
<td>PHQ9 Score</td>
<td>1.25</td>
<td>1.09-1.42</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Results: In univariate comparison, PARA patients were significantly more likely to be of nonwhite ethnicity, have limited English proficiency, be born abroad, and be taking prednisone. They were less likely to have education beyond high school (see table).

CONCLUSIONS

- Ethnic and socioeconomic factors are significantly associated with PARA.
- Patients of non-White/Caucasian ethnicity may be at a higher risk for PARA, for either genetic or socioeconomic reasons.
- In addition, patients with lower levels of education or limited English proficiency may face barriers to medication adherence, including impaired literacy and low socioeconomic status.
- However, non-steroid disease-modifying anti-rheumatic drug use did not differ between the groups, suggesting that the presence of PARA was not explained by lack of access to treatment.
- Given that treatment to remission has been shown to improve outcomes in RA, these findings may help clinicians determine which RA subpopulations should have closer follow-up and intervention.

ACKNOWLEDGEMENTS

We would like to thank the patients who enrolled in the R. R. and the Office of the Director, National Institutes of Health, through UCSF-CTSI Grant Number TL1 RR024129. Its contents are solely the responsibility of the authors and do not represent the official views of the NIH.
Know your audience

Make your message accessible to a diverse audience.

People in your field of specialization
  • No special efforts are required to attract them.

People in fields closely related to yours are worth capturing, because they can have interesting insights and perspectives about your work.

People in unrelated fields can be attracted by an accessible message, and provide valuable insights and links to distant fields.
Introduction

- Surgical site infection (SSI), a leading complication of surgery, is particularly devastating and expensive to treat when it occurs in orthopaedic surgery. Orthopedic SSIs prolong total hospital stays by a median of 2 weeks per patient, approximately double hospitalization rates, and increase healthcare costs by more than 300%. Moreover, patients with orthopedic SSIs have substantially greater physical limitations and significant reductions in their health-related quality of life.

- In 1992, the US Centers for Disease Control (CDC) revised its definition of ‘wound infection’, creating the definition ‘surgical site infection’ (SSI) to prevent confusion between the infection of a surgical incision and the infection of a traumatic wound, as well as to create a standardized criteria of reporting SSIs across different hospital and health care centers.

- In the orthopedic trauma community, particularly in urban, level 1 trauma centers, such as the San Francisco General Hospital (SGF), little is known about the incidence of SSIs after orthopedic surgery and unique patient-specific risk factors that may predispose them to the development of SSIs.

Aim

- To determine the incidence of SSI of orthopaedic patients having undergone ORIF of fractures in an urban hospital setting.

- To ascertain what are the potential risk factors among this unique study population that receives their care at an urban hospital following ORIF of fractures.

Study Methodology

- We conducted a retrospective nested case-control study using the SFGF Trauma Registry from September 2003 through August 2005 (N = 235).

- Control group: Defined as adult patients (age > 18 years) who had ORIF of a fracture with the use of an implant and did not develop a SSI. Controls will be a random sample taken from the entire cohort (N = 164).

- Cases group: Defined as adult patients (age > 18 years) treated for bone fracture(s) by ORIF with a deep and/or organ space infection that required operative intervention and/or had a positive culture within one year following surgery (N = 71).

- Exclusion: Patients that were treated by the podiatric service, and those with concomitant systemic infection and/or any other type.

Study Methodology (Continued)

- We first contacted patients by phone then mailed a validated quality of life (QOL) survey (SF-12).

- We calculated NNIS Risk and Charlon Comorbidity Indices (CCI) to describe this population.

- We determined independent risk factors for SSI using multivariate logistic regression.

- We estimated the Incidence of SSI within one year of surgery 1) using all SSI cases at follow-up and 2) extrapolating the proportion of SSI cases amongst the self-reported group.

Data Analyses

- We analyzed categorical data using chi-square and Fisher’s exact tests as appropriate; continuous variables were tested with the Mann-Whitney test.

- We used logistic regression to analyze the relationship between clinical and demographic factors and the risk for infection following surgery.

- We used linear regression to measure the associations between clinical and demographic, along with physical and mental health scores (as measured by the SF12).

Results

- We found the three most common bacterial cultures amongst SSIs to be:
  - Staphylococcus Aureus (resistant to both Methicillin and Nafcillin)
  - Enterobacter Cloacae
  - Pseudomonas Aeruginosa

- We found the following independent risk factors to be associated with SSI development: dementia, liver disease, smoking, number of surgical procedures, and number of days post-surgery until discharge.

Conclusions

- This is the first study that reports the incidence of SSI after orthopedic trauma and surgical repair in a Level 1 county hospital.

- Compared with previous estimates in academic and community hospitals, we report a higher incidence of SSI (2 percent vs. 8 percent).

- Most risk factors identified were non-modifiable attributes: medical comorbidities and surrogates of injury severity.

- This study highlights unique characteristics of an urban trauma center population that may be helpful in identifying high-risk patients though further work will be necessary prospectively assess clinical strategies to reduce this high rate of infectious complications.

- Study limitations: limited SF-12 response rate, lack of precise case vs. control incidence measurement, and difficulty in obtaining qualitative measurements.

Acknowledgments

1. Orthopedic Surgery Clinical Research Group at SFGH/UCSF
2. Infection Surveillance Group at SFGH
3. Doris Duke Charitable Foundation
4. PACT/CTSI at UCSF
5. Stanford University School of Medicine, Medical Scholars Fund
6. BREAD/CTSI at UCSF

Contact information: Gabriel J. Martinez-Diaz, gjm6@stanford.edu
Breastfeeding and the risk of malaria among children born to HIV-infected mothers

Neil Vora1, Jaco Homsy2, Emmanuel Arinaitwe2, Taylor Sandison4, Abel Kakuru2, Humphrey Wanzira3, Julius Kalamya2, Moses Kamya2, Jordan Tappero2, Grant Dorsey5

1School of Medicine, University of California, San Francisco, 2Centers for Disease Control-Uganda, 3Makerere University Medical School, Kampala, Uganda, 4University of Washington Medical School, Department of Medicine, University of California, San Francisco

Introduction

◆ The benefits of breastfeeding are well-established, particularly in protecting infants against infectious diseases such as diarrheal illnesses.

◆ In Africa, malaria is a major cause of childhood death, but whether or not breastfeeding reduces the risk of malaria is unknown.

◆ Breastfeeding also represents a major mode of mother-to-child HIV transmission.

◆ The optimal duration that children of HIV-infected mothers living in resource-limited settings should breastfeed is uncertain.

◆ Current World Health Organization recommendations under these circumstances are for:
  - HIV-exposed children (HIV-uninfected children born to HIV-infected mothers) to breastfeed exclusively for the first 6 months of life followed by complete breastfeeding cessation.
  - HIV-infected children to breastfeed exclusively for the first 6 months of life followed by introduction of complementary foods with continued breastfeeding for as long as desired.

Methods

◆ Observation period in this study began once a study participant was at least 6 months of age.

◆ Observation period in this study ended when a participant: 1) reached 15 months of age, 2) reached the last day of follow-up, April 30, 2008, 3) was prematurely withdrawn from the study, 4) was randomized to stop TMP-SMX prophylaxis after breastfeeding cessation (only applicable to HIV-exposed children).

◆ Risk of malaria among children breastfeeding and not breastfeeding was assessed in two separate age strata (6–<9 months and 9–<15 months) while adjusting for age within each stratum.

Data Analysis

◆ Breastfeeding and the risk of malaria among HIV-exposed children

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Breastfeeding</th>
<th>Not Breastfeeding</th>
<th>Incidence</th>
<th>RR* (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–&lt;9 months</td>
<td>18</td>
<td>22</td>
<td>13.85</td>
<td>1.17</td>
<td>0.63</td>
</tr>
<tr>
<td>9–&lt;15 months</td>
<td>16.11</td>
<td>1.37</td>
<td>(0.61–2.25)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

◆ Table 3. Breastfeeding and risk of malaria among HIV-exposed children

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Breastfeeding</th>
<th>Not Breastfeeding</th>
<th>Incidence</th>
<th>RR* (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–&lt;9 months</td>
<td>6</td>
<td>47</td>
<td>7.77</td>
<td>0.32</td>
<td>0.004</td>
</tr>
<tr>
<td>9–&lt;15 months</td>
<td>7</td>
<td>17.09</td>
<td>2.75</td>
<td>(0.14–0.70)</td>
<td></td>
</tr>
</tbody>
</table>

◆ Table 4. Breastfeeding and risk of malaria among HIV-infected children

Results

◆ Table 1. Patient follow-up

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>HIV-exposed (n=189)</th>
<th>HIV-infected (n=45)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at start of observation (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 mo</td>
<td>132 (70)</td>
<td>22 (49)</td>
</tr>
<tr>
<td>&gt;6-12 mo</td>
<td>57 (30)</td>
<td>23 (51)</td>
</tr>
<tr>
<td>Age at end of observation (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6–15</td>
<td>173 (92)</td>
<td>33 (73)</td>
</tr>
<tr>
<td>15</td>
<td>16 (8)</td>
<td>12 (27)</td>
</tr>
<tr>
<td>Median duration of follow-up, mo (IQR)</td>
<td>3.1 (2.0-5.0)</td>
<td>3.3 (2.1-5.7)</td>
</tr>
</tbody>
</table>

◆ Table 2. Breastfeeding characteristics

<table>
<thead>
<tr>
<th>BF status throughout observation period</th>
<th>HIV-exposed</th>
<th>HIV-infected</th>
</tr>
</thead>
<tbody>
<tr>
<td>A stopped BF before observation period</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>A stopped BF during observation period</td>
<td>112</td>
<td>1</td>
</tr>
<tr>
<td>Did not stop BF during observation period</td>
<td>58</td>
<td>37</td>
</tr>
</tbody>
</table>

Conclusions

◆ Breastfeeding may protect against malaria among children born to HIV-infected mothers between the ages of 9 and months and who are also taking TMP-SMX prophylaxis.

◆ These findings suggest that:
  - HIV-exposed children in resource-limited settings with high rates of malaria transmission may benefit from breastfeeding beyond 6 months of age.
  - HIV-infected children are at risk of early cessation of breastfeeding but their caregivers should be encouraged to continue breastfeeding, if feasible.

Acknowledgements

I would like to thank the study participants and their families, the Toro CDA Cohort staff, the CDC-Uganda staff and Taylor Sandison. I am grateful to the Doris Duke Charitable Foundation for funding my year and also Peter Chin Hong, Joel Palefsky, Dave Klouge, Cecily Hunter and Marlene Berro.
BACKGROUND

• Coronary artery disease is the leading cause of death among adults in the USA, causing 1 of every 5 deaths with a mortality of almost half a million per year.

• The societal cost of CAD events will continue to increase alongside the growing epidemic of obesity, metabolic syndrome, and diabetes.

• The traditional risk factors used to identify individuals at risk include age, sex, smoking, lipid levels, and blood pressure, however, research has shown that using traditional risk factors results in under treating patients at risk, especially those that are asymptomatic, and over treating patient's that will not have an atherosclerotic event.

• The traditional scoring system is helpful at the population level, but there is a need to develop more effective tools for the early diagnosis of CAD at the individual patient level.

• Recent research has suggested that regional fat deposits, including epicardial fat, may have local inflammatory and immunologic activity on atherosclerosis through paracrine and vasoconstrictive activity. In cardiovascular disease states the epicardial fat may expand and become hypoxic, initiating the expression of genes and inflammatory markers that recruit phagocytic cells, macrophages, and T-cells. These molecules and signaling events may also reach the arteries underneath and promote atherosclerosis and vasoconstriction.

• Identification of strong predictors of coronary artery disease, independent of the Framingham risk factors, has been an important object of extensive clinical research.

• Recent studies have shown that pericardial fat is an independent variable for severity of CAD, high calcium score, and cardiovascular events.

METHODS

• We retrospectively identified all adult patients referred for coronary CTA at UCSF from 2006 to 2011.

• A cohort of 117 consecutive patients with low to intermediate risk for coronary artery disease referred for coronary CTA evaluation were included in the study.

• Non-contrast enhanced CT images of the chest were used for measurement of pericardial fat volume.

• Pericardial fat areas were manually outlined on axial slices from 15 mm above to 30 mm below the origin of the left main coronary artery, and the total area was multiplied by the slice thickness of 2.5mm.

• Burden of coronary artery disease was determined as the number of coronary segments with any degree of atherosclerotic change. A lesion with higher than 50% stenosis was considered hemodynamically significant.

• Demographic and cardiovascular risk factor data were obtained from chart review.

DATASET ANALYSIS

• Distribution of pericardial fat in patients with and without significant stenosis were compared using Mann-Whitney test

• Logistic regression models were fitted with presence of significant stenosis and burden of atherosclerotic disease as the outcomes, controlling for known cardiovascular risk factors including BMI, age, gender, hypertension, hyperlipidemia, diabetes and smoking.

RESULTS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>56 ± 14.9</td>
</tr>
<tr>
<td>BMI</td>
<td>25.8 ± 6.4</td>
</tr>
<tr>
<td>Males</td>
<td>50.4%</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>61%</td>
</tr>
<tr>
<td>Smoking</td>
<td>8%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>49%</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>14%</td>
</tr>
</tbody>
</table>

Continuous variables are reported as Mean (SD) Categorical variables are reported as percentages

• Distribution of pericardial fat in patients with and without significant stenosis were compared using Mann-Whitney test

• Logistic regression models were fitted with presence of significant stenosis and burden of atherosclerotic disease as the outcomes, controlling for known cardiovascular risk factors including BMI, age, gender, hypertension, hyperlipidemia, diabetes and smoking.

CONCLUSIONS

• Volume of pericardial fat is independently associated with the presence of a significant coronary stenosis and a higher burden of atherosclerotic disease.

• Quantification of pericardial FAT using CT can have an incremental role in coronary disease risk stratification compared to Framingham risk factors alone.

CLINICAL SIGNIFICANCE

• Investigate the association between epicardial fat contrast enhancement with number of diseased coronary artery segments and severity of coronary artery disease.

FUTURE DIRECTION

ACKNOWLEDGEMENTS

This publication was supported by the National Center for Research Resources, the National Center for Advancing Translational Sciences, and the Office of the Director, National Institutes of Health, through UCSF-CTSI Grant Number TL1 RR024129. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH.
Investigation of interprofessional collaborative patient care in clinical education: beliefs, attitudes, and experiences of physical therapy students

Amber Fitzsimmons, Kimberly Topp

Department of Physical Therapy and Rehabilitation Sciences, University of California, San Francisco

Background

- Interprofessional education (IPE) is required to develop entry level doctorate physical therapist who are immediately ready for collaborative practice and can deliver quality, patient centered care.
- Clinical education models in entry-level doctorate programs in physical therapy are varied and inconsistent.
- Insight into physical therapy student interprofessional collaboration experiences in clinical settings will inform the creation of interprofessional competency standards within clinical education.

Study Aims

- Aim 1: Describe and compare the IP collaboration and learning experiences as viewed by PT students in an inpatient and outpatient clinical setting.
- Aim 2: Describe the range of perceived learning that may occur during IP collaboration within the clinical setting.
- Aim 3: Measure the change in scores (pre vs. post-test) for the three outcomes associated with interprofessional collaboration.

Methods: Design

- Design: Sequential mixed-method study using interprofessional socialization and valuing scale (ISVS) (n=33) and in-depth one-on-one semi-structured interviews (n=30)

Methods: Collection/Analysis

- Sampling
  - Rising 2nd year entry level doctoral physical therapy students were recruited after participating in a one year UCSF-wide longitudinal interprofessional education curriculum (n=33)
- Data Collection
  - ISVS survey was administered at end of first year curriculum, prior to departure for clinical rotation and again one week after completion of 8 week clinical rotation (n=33)
  - Semi structured one-on-one interviews were completed within 12 weeks of completion of clinical rotation (n=30)
- Data analysis
  - Semi-structured interviews digitally recorded and transcribed
  - General inductive approach and thematic content analysis to understand what constitutes effective interprofessional collaboration in the clinical setting from a learners perspective.

Results: Demographics (n=33)

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Median</td>
<td>25 years</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>22-47 years</td>
<td></td>
</tr>
</tbody>
</table>

Results: ISVS survey

- ISVS survey was administered at end of first year curriculum, prior to departure for clinical rotation and again one week after completion of 8 week clinical rotation (n=33)

Results: ISVS survey

- ISVS Scale Item
  - Mean
  - SD
  - p-value

<table>
<thead>
<tr>
<th>Item</th>
<th>ISVS Scale Item</th>
<th>Mean</th>
<th>SD</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>I believe IP practice is difficult to implement</td>
<td>0.727</td>
<td>1.625</td>
<td>.015</td>
</tr>
<tr>
<td>Item 2</td>
<td>I have gained a better understanding of the client's involvement in decision making around their care</td>
<td>-.485</td>
<td>1.149</td>
<td>.021</td>
</tr>
</tbody>
</table>

Analysis

Theme: Building interprofessional relationships

- Facilitates collaboration/communication
  - "...I think it kind of like opens, it makes me see them like more than just a professional. It makes me see them like a person and I can relate better to people when I know something about them. It's easier to talk to them and like see them as not just like someone you can't approach, like when they share something with you it's like they're opening up and starting that bond." (female, age 24, outpatient facility)
  - "...But also when you get to know people you're more likely to communicate with them more...I feel when you have a good relationship with someone you're more likely to be able to talk to them instead of thinking I don't want this surgeon thinking that I don't know what I'm doing because I want to appear really competent in my job, so I don't want to ask that and I just want to figure it out for myself." (male, age 26, outpatient setting)

- Error Prevention
  - "So I think that all the departments didn't really know this doctor or they saw this doctor's name on the chart and they never even met this person yet and so it was a brand new physician, this physician had been practicing but new to this hospital, and so I think it was just that they hadn't taken the time to build up that relationship beforehand that we kind of talked about, and speaking with the doctor and being familiar with them and being able to recognize them, feeling comfortable to call them or page them about something... It was really a breakdown in communicating our results or findings to somebody who could really manage them, so that was too bad." (male, age 24, inpatient setting)

- Creates efficiencies
  - "I think it's important to realize that each member behind each profession in the healthcare team is an individual person, they're not just someone referring you patients. They are someone there also caring for the patients... So, it's important to kind of realize that it's not just a name, it's not just a signature, there's somebody there and the communication needs to be more comfortable and more open than just a formality where you get referred a patient through a doctor. It needs to be that you know the doctor and you trust the doctor they're going to refer you people who are appropriate." (male, age 24, inpatient setting)

Discussion and Next Steps

- Repeated measures ANOVA revealed no statistical difference (p<0.05) between pre and post test scores within or between groups using ISVS scale
- Further analysis of student perceptions that interprofessional collaboration occurs when they individually access electronic health records and hard-written patient charts
- Study limitations include: 1) self-reporting bias, 2) no baseline or control group, 3) small sample size, and 4) single institution
- Findings may assist curricular mapping of the newly released interprofessional competencies within the clinical education framework

Acknowledgments

This project was supported by the National Center for Research Resources, the National Center for Advancing Translational Sciences, and the Office of the Director, National Institutes of Health through UCSD-CTSI Grant Number TL1 RR024129. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH. Thank you to Elizabeth Temp, Shenee T. Hunt, Ruby Engstrom, Marlene Demir, and all the faculty and colleagues in the Clinical Translational Research (CTR) program at UCSF.
What Is the Optimal Interval of Mammography following Lumpectomy?
VA Arasu1; BN Joe1; NM Lwoff1; JWT Leung1; RJ Brenner1; C Flowers1; B Chang1; EA Sickles1
1Department of Radiology and Biomedical Imaging, Division of Women’s Imaging, University of California, San Francisco

Introduction
Lumpectomy is standard treatment for early breast cancer
- Conserves breast through local excision of cancer
- Used in stage 0 – stage 2 breast cancer
- Equivalent efficacy to mastectomy

Patients have a high risk for recurrence
- Baseline risk of breast cancer in healthy women: 0.5% per year
- Recurrence risk after lumpectomy: 1-2% per year
- Patients with recurrence have 3x mortality rate
- Higher stage recurrence predicts worse prognosis
- Stage 2 recurrence has 50% worse prognosis than stage 1

Optimal interval for surveillance is unknown
- Clinical exam and mammography best methods to detect recurrence
- No evidence for interval using mammography
- Interval is variable in clinical practice
  - Cancer organizations: Every 12 months
  - UCSF: Every 6 months for 5 years

Research Question
- In lumpectomy patients at UCSF, do mammograms at 6-month intervals detect cancers earlier?

Methods
Patients and Data Collection
- Retrospective review from 1997 – 2008 of mammograms following lumpectomy
- Collected from UCSF Mammography Database
- Predictor: 6-month or 12-month interval is time between the last negative mammogram and positive mammogram that detects recurrence (Fig. 1)
- Study Endpoint: Cancer recurrence using TNM staging criteria

6 vs. 12-Month Interval Assignment

| Patient #1 | | | | | | | | 6-month |
| Patient #2 | | | | | | | | 12-month |

<table>
<thead>
<tr>
<th>Months since lumpectomy treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Results
Patient Characteristics
- 2,329 women, 10,750 exams identified
- 8,421 mammogram exams included
  - 85% were 6-month interval mammogram exams
  - 2,545 exams excluded
  - Excluded exams include exam intervals > 18 months, immediately post-lumpectomy
  - No significant baseline differences in risk of breast cancer by age, family history

Cancer Recurrence
- 109 recurrences over 5 years (Table 1)
  - No recurrences beyond stage 2
    - 1.3% vs. 1.2% recurrences/yr in 6 vs. 12-month

| TABLE 1. Cancer Recurrence by Interval and Stage |
| Stage 0 (%) | Stage 1 (%) | Stage 2 (%) |
| 6-month | 31 (33%) | 57 (61%) | 9 (86%) |
| 12-month | 4 (27%) | 7 (47%) | 4 (27%) |

Analysis
- Fisher’s exact test comparing the proportions in stage 0+1 vs. stage 2+3+4
- A threshold between stage 1 and 2 chosen a priori because it represents the largest drop in prognosis

• Mammograms at 6-month intervals detected recurrence at earlier stage (Fig. 2)
  - Stage 0+1 vs. 2 (p = 0.03)
  - Stage 1 vs. 2 (p = 0.04)
  - Number needed to screen (NNTS) = 81 women to prevent one stage 0+1 recurrence from progressing to stage 2
  - No significant difference by lymph node status or lesion size alone

Conclusion
• Mammogram exams at 6-month intervals detect recurrence significantly earlier
  - Number needed to screen (NNTS) = 81 to prevent stage 0/1 vs. stage 2
  - Recurrences detected and treated at earlier stage may lead to better overall survival
  - First evidence that 6-month exam intervals following lumpectomy is optimal
  - May change guidelines by cancer organizations
  - Establishing clinical efficacy will require an RCT

Acknowledgements
This research was supported by NIH TL1 RR024223 and Doris Duke Charitable Foundation Award 00601984

UCSF University of California San Francisco
Headsings

Should include the title, section titles, and figure captions -

- **Summarize**
  Use headings as opportunities to summarize your work in large letters.

- **Organize**
  Good headings are part of the visual grammar that helps move readers through your poster.

- **Be Hierarchical**
  The more important the point, the larger the type.

- **Be Bold**
  Make the strongest statements your research allows.
Is paternal education a risk factor for preterm birth? Findings from a population-based study of California women

Philip Blumenshine MSC1,2, Susan Egerter PhD1, Moreen Libet PhD2, Paula Braveman MD, MPH1

1 University of California, San Francisco, Department of Family and Community Medicine, Center on Social Disparities in Health
2 California Department of Public Health, NCHAM Program
3 Weill Medical College of Cornell University

Background

- The percentage of infants born preterm has risen steadily from 1990 to 2006. (Figure 1)
- Preterm birth is responsible for approximately 75% of perinatal deaths.
- Preterm infants are at increased risk for respiratory distress syndrome, chronic lung disease, injury to the intestines, a compromised immune system, and various neurological impairments.
- Socioeconomic and racial/ethnic disparities in the occurrence of preterm birth have been well-documented over the past two to three decades.
- Research on socioeconomic disparities in maternal/child health, including preterm birth, has almost exclusively used maternal socioeconomic characteristics as a proxy for socioeconomic status (SES).
- Much less is known about the influence of paternal socioeconomic characteristics on maternal/child health.
- Understanding paternal education could help explain socioeconomic disparities in preterm birth and re-conceptualize the use of SES in maternal/child health studies.

Methods

- The Maternal and Infant Health Assessment (MIHA) is a cross-sectional, population-based survey conducted annually since 1999.
- MIHA is available in both English and Spanish and has been validated in both languages in diverse populations.
- Participants are randomly selected from birth certificates, stratified by education, race, and region of California and are mailed a self-administered survey.
- Response rates have been 70% or higher annually.

Results

1. From 1999 to 2005, 9.9% of women in MIHA had a preterm birth. (Table 1)

2. Low levels of paternal and maternal education were associated with increased unadjusted odds of preterm birth. (Table 2)

3. Poverty (<1% of the Federal Poverty Level), African-American race, and US-born Latina ethnicity were also associated with increased unadjusted odds of preterm birth. (Table 2)

4. Being/living as single at delivery, delivering a first birth, having delivered more than four births, having delivered a previous preterm birth, and maternal smoking during pregnancy were associated with increased unadjusted odds of preterm birth. (Table 2)

5. In multivariate models, low levels of paternal education remained significantly associated with increased odds of preterm birth after adjustment for confounders, while low levels of maternal education and poverty did not. (Table 3)

6. There was significant interaction between marital status and paternal education (Adjusted OR = 3.60, P=0.006): the association between preterm birth and paternal education was greater among unmarried women than among married women. (Table 4)

Conclusions

- Low levels of paternal education are a significant risk factor for preterm birth in our sample, particularly among unmarried women.
- In contrast to parental education, maternal education and poverty status were not important predictors of preterm birth.
- Our results suggest that exclusive use of maternal socioeconomic characteristics as a proxy for SES may be overly simplistic.
- Researchers and policymakers conducting studies of adverse birth outcomes should collect and use paternal and maternal socioeconomic information to create a more complete measure of SES.

Acknowledgements:

Many thanks to:

- DDCF Clinical Research Fellowship
- Joel Palefsky, Peter Chin-Hong, Cecily Hunter, David Kiloough, Kristen Marchi, and Marlene Berro
Creating your poster

1. Planning: Takes time
2. Focus: Keep it simple
3. Layout: Guide your readers
4. Headings: Orientation
5. Graphics: Simple and clean
6. Text: Make it large
7. Colors: Don’t overdo
8. Editing: Allow enough time
Poster Specs & Dates

Poster Specs

TLI (NIH) meeting: 36” x 36”
DDCF meeting: 42” x 42”
ARVO: 42” x 66”

2013 Meeting Dates

May 5-7: TLI - Mayo Clinic, Rochester MN
May 5-9: Arvo – Seattle WA
May 8: PosterPalooza - Milberry Union
May 28-30: DDCF – Hyatt Dulles Airport, VA
Planning Your Poster

**Suggested schedule**—Below are some ideas for establishing milestones. This schedule assumes that you're doing other things during the week. It also allows time for you to get feedback from collaborators and peers.

<table>
<thead>
<tr>
<th>When</th>
<th>What</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Present poster</td>
</tr>
<tr>
<td>-1 week</td>
<td>Final print</td>
</tr>
<tr>
<td>-1 week</td>
<td>Make changes suggested by mentor and peers</td>
</tr>
<tr>
<td>-1 week</td>
<td>Distribute draft for mentor AND peer review (round 2)</td>
</tr>
<tr>
<td>-2 weeks</td>
<td>Make changes suggested by mentor</td>
</tr>
<tr>
<td>-2 weeks</td>
<td>Distribute draft for mentor review (round 1)</td>
</tr>
<tr>
<td>-3 weeks</td>
<td>Begin to edit your draft ruthlessly</td>
</tr>
<tr>
<td>-3 weeks</td>
<td>Create first draft of poster</td>
</tr>
<tr>
<td>-4 weeks</td>
<td>Plan out poster on template or scratch paper</td>
</tr>
<tr>
<td>-4 weeks</td>
<td>Define message and write an abstract (if you haven't already done so)</td>
</tr>
</tbody>
</table>
Poster resources and templates can be found at:

the CTSI website:  
http://ctsi.ucsf.edu/about-us/ctsi-identity

and

The UCSF library website:  
http://www.library.ucsf.edu/help/postersupport

If there is a specific template that you would like to use, please contact Marlene at:  
marlene.berro@ucsf.edu
A Comparison of Longitudinal Integrated and Traditional Ob-Gyn Clerkships in Medical Student Satisfaction and Performance

Jeanette Lager MD1, Sai-Wing Chan1, Rebecca Falik MD1, Anne Poncelet MD2, Arianne Teherani PhD2, Patricia A Robertson MD1

1University of California San Francisco Department of Obstetrics, Gynecology and Reproductive Sciences. 2University of California San Francisco Department of Neurology.

Clinical and Translational Science Institute / CTSI

Introduction

Within the last decade, a concern about the lack of patient continuity and the fragmentation of medical student clinical experiences has prompted the design and implementation of longitudinal clerkships as an alternative to the traditional block clerkships1-4. Research on student satisfaction and evaluations of content knowledge and clinical skills has demonstrated that students in longitudinal clerkships typically have higher satisfaction with their clerkship experiences compared to students in traditional block clerkships, while still performing at or near the same level in clinical skills and knowledge testing4-8. However, few studies have examined the differences in outcomes specific to the obstetrics and gynecology clerkship, which may be particularly well-suited for a longitudinal clerkship given the importance of continuity in caring for pregnant women.

Objective

To retrospectively evaluate differences in medical student satisfaction and clinical performance between a traditional six-week Ob-Gyn clerkship and a one-year integrated longitudinal Ob-Gyn clerkship over a five year period at a major academic medical center.

Methods

• Subjects: Third-year medical students completing either a traditional or longitudinal Ob-Gyn clerkship during 2007-2012
• Student satisfaction scores for both clerkships were measured with standardized year-end questionnaires. Questions assessed included overall quality of faculty clinical teaching, resident clinical teaching and formal teaching. Also assessed was the adequacy of direct observation of clinical skills, feedback on student performance, and achievement of course objectives and the clerkship as a whole.
• Student performance was measured using shelf examination scores, clinical practice exam scores, and the proportion of students receiving honors grades within each group.
• Student satisfaction and performance were then compared between the two types of clerkships.
• For all analyses aside from the proportion of honors received, a one way analysis of variance was used to analyze the data.
• For the proportion of honors received, a chi squared test was used.

Results

To date 71 students have completed a longitudinal Ob-Gyn clerkship. We compared their measures with those of 464 students who completed a traditional Ob-Gyn clerkship over the same time period.

• In nearly all measures of student satisfaction, students in the one-year integrated longitudinal Ob-Gyn clerkship rated the overall clerkship experience significantly higher than students in the traditional clerkship, specifically on measures of both faculty and resident clinical teaching quality, formal education quality, adequacy of direct clinical skill observation, and adequacy of performance feedback (table 1). Student evaluations of the clerkship’s achievement of course objectives were not significantly different.

• Performance on the year-end clinical practice exam (CPX) was significantly higher among medical students in the longitudinal clerkship (table 2, fig.1). However, shelf exam scores and the proportion of students receiving honors were not statistically different between the two student groups.

Table 1: Student Evaluation of Clerkship

<table>
<thead>
<tr>
<th>Year-End Evaluations*</th>
<th>PISCES (N=68)</th>
<th>Traditional (N=433)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall quality of faculty clinical teaching</td>
<td>4.38 ±0.81</td>
<td>3.94 ±0.98</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Overall quality of resident clinical teaching</td>
<td>4.16 ±0.91</td>
<td>3.79 ±1.07</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Quality of formal teaching</td>
<td>4.26 ±0.66</td>
<td>3.95 ±0.91</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Adequacy of direct observation of your clinical skills</td>
<td>4.26 ±0.84</td>
<td>3.66 ±1.09</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Adequacy of feedback on your performance</td>
<td>3.96 ±1.04</td>
<td>3.49 ±1.12</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Your achievement of course objectives</td>
<td>4.28 ±0.90</td>
<td>4.14 ±0.89</td>
<td>0.22</td>
</tr>
<tr>
<td>The clerkship as a whole</td>
<td>4.25 ±0.87</td>
<td>3.99 ±0.96</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Table 2: Student Performance

<table>
<thead>
<tr>
<th>Performance measure</th>
<th>PISCES</th>
<th>Traditional</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelf Examination score</td>
<td>(N=63)</td>
<td>75.2 ± 9.1</td>
<td>(N=450)</td>
</tr>
<tr>
<td>Clinical Practice Exam (CPX) Score</td>
<td>(N=23)</td>
<td>70.8 ± 5.1</td>
<td>(N=195)</td>
</tr>
<tr>
<td>Proportion of students receiving honors</td>
<td>28/71</td>
<td>(39.4%)</td>
<td>151/464</td>
</tr>
</tbody>
</table>

Figure 1: Student Performance

Compared to students in the traditional Ob-Gyn clerkship at this academic medical center, students in the one-year longitudinal integrated clerkship demonstrated:
• Overall higher student satisfaction scores than the traditional Ob-Gyn clerkship
• Better clinical performance as determined by the year-end clinical practice exam score
• Better student satisfaction with the Ob-Gyn component of their clerkship.

The Ob-Gyn longitudinal integrated clerkship appears to be a more beneficial experience for students compared to the traditional clerkship at this academic medical center, especially with respect to clinical skills teaching, increased observation, and personal feedback. Further research is needed to determine which specific factors improve student satisfaction and learning in this longitudinal integrated clerkship environment.

Conclusions

References


Acknowledgments

This publication was supported by the National Center for Advancing Translational Sciences, NIH, through UCSF-CTSI Grant Number TL1 LL100144. Its contents are solely the responsibility of the authors and do not represent the official views of the NIH.

Many thanks to:
UCSF Office of Student Research,
CTFP/CTSI at UCSF, Joel Palefsky, Peter Chin-Hong, Marlene Berro, and the medical students at UCSF School of Medicine.

Contact Information: Sai-Wing Chan, sai-wing.chan@ucsf.edu
Approximate word counts should be as follows depending on your graphics.

- Title - not too long-convey the "issue,"
- Introduction (max 150 words)-Bullets or short paragraphs
- Methods (max 150 words)-Describe the steps used to answer your scientific question
**Introduction**

- South Asians come from the Indian subcontinent, including India, Pakistan, Sri Lanka, Nepal, and Bangladesh
- Compared to other ethnicities, South Asians have at least a two-fold increased risk of cardiovascular disease, myocardial infarction, type 2 diabetes, and cardiovascular death

**Methods**

- South Asians come from the Indian subcontinent, including India, Pakistan, Sri Lanka, Nepal, and Bangladesh
- Compared to other ethnicities, South Asians have at least a two-fold increased risk of cardiovascular disease, myocardial infarction, type 2 diabetes, and cardiovascular death

**Results**

- South Asians come from the Indian subcontinent, including India, Pakistan, Sri Lanka, Nepal, and Bangladesh
- Compared to other ethnicities, South Asians have at least a two-fold increased risk of cardiovascular disease, myocardial infarction, type 2 diabetes, and cardiovascular death

**Statistical Analysis**

- Student’s t-test was used for comparison of continuous variables and chi-square test for proportions. Two-sided p-values were calculated for all test statistics and p < 0.05 was considered significant. Statistical analyses were performed using STATA Version 10 (College Station, TX).

**Conclusion**

- South Asians come from the Indian subcontinent, including India, Pakistan, Sri Lanka, Nepal, and Bangladesh
- Compared to other ethnicities, South Asians have at least a two-fold increased risk of cardiovascular disease, myocardial infarction, type 2 diabetes, and cardiovascular death

**Acknowledgments**

- This project was supported by NIH/NCCR UCSF-CTSI Grant Number UL1 RR024131. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH.

- This project was supported by NIH/NCCR UCSF-CTSI Grant Number K23 RR024130. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH.
Word Counts (continued)

- Aims - 50 words-Do not write an abstract

- Data Analysis - 60

- Results - 250 (not counting figure legends)
  1. First, mention whether experiment worked
  2. Briefly describe qualitative and descriptive results
  3. Refer to supporting charts or images
  4. Opt for figures whenever possible

- Conclusion – 125 (can be bullets or short paragraphs)

- Acknowledgment – can be found at: http://accelerate.ucsf.edu/cite
Introduction

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Specific Aims

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Methods

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Table 2: Example of cut and paste table

<table>
<thead>
<tr>
<th>Structure</th>
<th>Scenario</th>
<th>Sample Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperative</td>
<td>My hand moves in - watch me sit down</td>
<td>Sit down</td>
</tr>
<tr>
<td>Declarative</td>
<td>A dog lies on the floor. What?</td>
<td></td>
</tr>
<tr>
<td>Comparative</td>
<td>The dog lies on the floor. What?</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Example of table made in ppt

<table>
<thead>
<tr>
<th>Structure</th>
<th>Lorem ipsum Lorem ipsum Lorem ipsum</th>
<th>Lorem ipsum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lorem ipsum</td>
<td>Lorem ipsum Lorem ipsum Lorem ipsum</td>
<td>Lorem ipsum</td>
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<td>Lorem ipsum</td>
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<td>Lorem ipsum</td>
</tr>
<tr>
<td>Lorem ipsum</td>
<td>Lorem ipsum Lorem ipsum Lorem ipsum</td>
<td>Lorem ipsum</td>
</tr>
</tbody>
</table>

Statistical Analysis

• We used multivariate analysis to study the numbers and types of errors produced in relation to the subjects’ diagnoses.

Results

• Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis

• Across group, Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis

• Although they attempted a similar number of subjects compared to other patient groups and controls, NFV patients performed worse (74.0%) than the other four groups; this difference was highly significant (F(4,41)=5.94, p< 0.0007).

Table 3. Attempted Items and Correct Items by Patient Group

<table>
<thead>
<tr>
<th>Structure</th>
<th>NFV</th>
<th>LV</th>
<th>Both</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg Number of Attempted Items</td>
<td>2,171</td>
<td>2,823</td>
<td>1,633</td>
<td>1,443</td>
</tr>
<tr>
<td>Avg Percent of Attempted Items</td>
<td>0.97</td>
<td>0.53</td>
<td>0.16</td>
<td>0.80</td>
</tr>
<tr>
<td>Avg Number of Correct Items</td>
<td>1,588</td>
<td>1,223</td>
<td>887</td>
<td>974</td>
</tr>
<tr>
<td>Avg Percent of Correct Items</td>
<td>0.74</td>
<td>0.90</td>
<td>0.86</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Figure 2. VBM – Syntactic Accuracy

Conclusions

• Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis

• The

• Compared to controls

• When considering all responses

Acknowledgments

This project was supported by NN INCIIDENCE-UICD-CTSI Grant Number TL1-000438. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

We thank all of the patients, caregivers and volunteers for their participation in our research.
### Acknowledgments

<table>
<thead>
<tr>
<th>For researchers other than K scholars and CTR fellows</th>
<th>For DDCF Fellows</th>
<th>For SOM Dean’s Office</th>
<th>For K scholars</th>
<th>For CTR Fellowship Awardees</th>
</tr>
</thead>
<tbody>
<tr>
<td>This publication [or project] was supported by the National Center for Research Resources and the National Center for Advancing Translational Sciences, National Institutes of Health, through <strong>UCSF-CTSI Grant Number UL1 RR024131</strong>. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH.</td>
<td>“This work was supported by a grant from the Doris Duke Charitable Foundation to &lt;institution&gt; to fund Clinical Research Fellow &lt;fellow’s name&gt;&quot;</td>
<td>Supported by a Dean's Research Fellowship from the UCSF School of Medicine</td>
<td>&quot;This publication [or project] was supported by the National Center for Research Resources, the National Center for Advancing Translational Sciences, and the Office of the Director, National Institutes of Health, through <strong>UCSF-CTSI Grant Number KL2 RR024130</strong>. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH.&quot;</td>
<td>This publication [or project] was supported by the National Center for Research Resources, the National Center for Advancing Translational Sciences, and the Office of the Director, National Institutes of Health, through <strong>UCSF-CTSI Grant Number TL1 RR024129</strong>. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH.&quot;</td>
</tr>
</tbody>
</table>

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Edit! Edit! Edit!

- Edit all text to simplify verbiage, to reduce sentence complexity, and to delete details.
- If it's not relevant to your message, remove it!
- Have colleagues comment on drafts.
- Print a small version and circulate for comment, or hang a full-size draft with pens and invite them to critique.
- Are your objective and main message obvious?
- Will readers be able to contact you?
Help with Your Poster

• Prepare your text, graphs, tables, and figures as instructed
• Assemble poster
• If needed, call to set up a time to review materials
• Email PDF of your poster to colleagues and friends for edits
• I can assist with final proof and editing.
• I will send PDF to Mark Ayres at CTSI to print
• You will pick up poster at Parnassus Campus

Contact: Marlene.berro@ucsf.edu