

The Importance of Using Social Determinants of Health and Standardized Charting to Care for Gynecology Patients at a Student Run Free Clinic

Mihaela Kancheva¹, Annalisa Segal¹, Judith Simms-Cendan, MD¹, Angie El-Said¹, and Rasika Patil¹

College of Medicine, University of Central Florida¹



Background

- Social determinants of health (SDOH) can be burdens to care and potential predictors of needs that influence patients' access to care.
 - Examples: language, education level, literacy, access to preventative checkups, transportation, childcare, and healthy and affordable food sources.
- The UCF Comprehensive Medical Care Outreach Team runs a student run free clinic in Apopka, FL that serves underserved patients burdened by these social adversities.
 - Data collected from encounters with these patients.
- To better understand health disparities impacting patients, this study investigates patient demographic trends as they pertain to gynecology complaints presented at the Apopka Clinic.
- Hypothesis: Patient demographics may correlate with certain common complaints such that providers may use patient demographics as a means of aiding patient management.
- Aims: To determine...
 - If and what type demographics serve as predictors for the types of OB/GYN complaints patients come in for
 - The frequencies of various parameters recorded on EHR for patients that present with OB/GYN complaints

Methods

- Extracted data from Electronic Health Records (EHR) and de-identified the information
 - Variables include: Age, Repeat Patient, Education Level, Language Spoken, Race, Ethnicity, Medical History, OB/GYN complaints, Contraception, Last Menstrual Period (LMP), Pap Smear in last 3 years, Gravity/Term/Preterm/Abortion/Living (GTPAL), Pregnancy History, STI History, Vitals (BMI, BP, HR, RR, Weight), Allergies, Medications, and Domestic Violence Concerns
- Subcategorized OB/GYN complaints into:
 - Reproductive Organs; Fertility and Contraception; Menstruation; Urinary; Pain; Labs and Imaging; and Other symptoms,
- Utilized SPSS for Descriptive statistics and created Frequency tables
 - Logistic regression of demographics (using age, race, and repeat patient) to predict the likelihood that each patient comes in with that complaint
 - Could not include the rest because of small sample size and missing data
- Ran univariate analysis after creating dummy codes because of small sample size
- Trends will be found to determine the potential directions of the data
 - The small sample size and lack of statistical significance trend extrapolation for future research

Results

OB/GYN Complaint	Frequency	Percent of Patients with Complaint
Reproductive Organs	29	40.85%
Fertility and Contraception	19	26.76%
Menstruation	29	40.85%
Urinary	4	5.63%
Pain	20	28.17%
Other symptoms	21	29.58%
Labs/Imaging	8	11.27%
Total Complaints	130	

Table 1. Shows the frequency of each of the OB/GYN complaints presented across all 71 patients. This includes complaints that presented individually and those that occurred at the same time as others.

Complaint	Frequency	Percentage of All Patients	Percentage of Single Complaints
Reproductive organs	9	12.68%	31.03%
Fertility and contraception	5	7.04%	17.24%
Menstruation	8	11.27%	27.59%
Urinary	1	1.41%	3.45%
Pain	1	1.41%	3.45%
Other symptoms	5	7.04%	17.24%
Labs/Imaging	0	0.00%	0.00%
Total	29		

Table 2. Shows the frequency of complaints presented across all 71 patients and across patients who presented with one complaint. Each frequency only reflects when the complaint was present by itself.

Value	Reproductive Organs	Fertility and Contraception	Menstruation	Urinary	Pain	Other symptoms	Labs/Imaging
Significance							
Age	0.262	0.049	0.106	0.117	0.06	0.446	0.031
Hispanic Race	0.104	0.06	0.726	0.548	0.228	0.759	0.175
Black Race	0.166	0.051	0.648	0.195	0.025	0.32	0.142
White Race	0.248	0.003	1	0.542	0.743	0.534	0.169
Central/South Am	0.097	0.086	0.545	1	0.618	0.571	0.401
Hispanic/Latino	0.523	0.15	0.341	0.126	0.006	0.387	0.216
Non-Hispanic/Latino	0.229	0.041	0.696	0.528	0.331	0.5	0.31
Normal BMI	0.273	0.877	0.891	0.378	0.552	0.65	0.395
Overweight BMI	0.674	0.102	0.835	0.18	1	0.25	0.516
Obese BMI	0.318	0.192	0.487	0.433	0.885	0.228	0.409
Normal BP	0.487	0.037	0.201	0.442	0.826	0.85	0.559
Elevated BP	0.961	0.318	0.698	0.918	0.559	0.256	0.053
Hypertension 1	0.178	0.825	0.877	0.594	0.137	0.415	0.367
Hypertension 2	0.821	0.129	0.375	0.636	0.808	0.002	0.716
Bradycardia	0.237	0.719	0.278	0.822	0.72	0.561	0.727
Normal HR	0.867	0.236	0.597	0.946	0.22	0.862	0.896
Tachycardia	0.45	0.719	0.278	0.822	0.076	0.133	0.727

Table 4. Shows the significance values for the different OB/GYN complaints with the values highlighted in green reaching statistical significance of p<0.05. For the values other than age, dummy codes were created, and univariate analysis was used. The values not used were the ones marked as "Unknown" in order to run the statistical analysis for the remainder of the values.

Complaint Pairings	Frequency	Percentage of All Patients	Percentage of Multiple Complaints
Reproductive organs, Pain	8	11.27%	19.05%
Reproductive organs, Fertility and contraception	6	8.45%	14.29%
Reproductive organs, Menstruation	6	8.45%	14.29%
Menstruation, Other symptoms	6	8.45%	14.29%
Reproductive organs, Menstruation, Pain	4	5.63%	9.52%
Reproductive organs, Other symptoms	4	5.63%	9.52%
Menstruation, Pain	4	5.63%	9.52%
Reproductive organs, Fertility and contraception, Pain	3	4.23%	7.14%
Fertility and contraception, Menstruation	3	4.23%	7.14%

Table 3. Shows the frequency of complaint pairings that occurred at least 3 times presented across all 71 patients and only across patients who presented with more than one complaint. Each frequency is reflective of anytime that pairing occurred, not only of that unique pairing. The remaining pairings occurred 0 to 2 times.

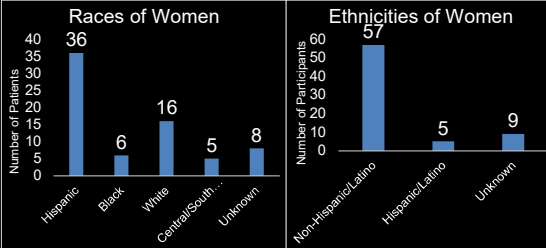


Figure 1. Shows the number of women in each race and ethnicity as well as the number of women for which this information was not recorded.

Discussion

Discussion:

- For patients of underserved populations, it is especially vital to understand key demographic features as related to SDOH.
 - These factors can inform patient management and impact the course of preventative care.
 - Such data can prime physicians to consider diagnoses and preventative measures that may not be common for other populations.
- Preliminary results show a stratification of presented complaints
 - Complaints of the Reproductive Organs and Menstruation were most common followed by Pain and Other Symptoms.
 - For all patients, complaint of Reproductive Organ alone was most common followed by Reproductive Organ combined with pain and Menstruation alone.
 - For single complaints, Reproductive Organ was the most common followed by Menstruation.
 - For multiple complaints, Reproductive organs combined with Pain was the most common combination.
- This research project has shown that in underserved populations, it may be easy to have missing data.
 - The frequency data shows commonly occurring ailments, but sporadic PMH makes significance extrapolation difficult
 - Significant values highlighted in green in Table 4 show possible correlations for the individual complaints.
 - Should not be taken to say that demographic information does not have any statistically significant correlation with OB/GYN complaints. Instead, it highlights the limitations that present with gathering adequate data on this population of women.
- Future Directions: This population of women does suffer from a variety of OB/GYN complaints, which are vital to women's overall health.
 - Apopka clinic can streamline the vitals and questions that each woman is asked, regardless of her chief complaint.
 - Electronic medical record (EMR) system should build in required areas for visits
 - Future studies: re-examine with additional or new data to see if there are any statistically significant demographic factors related to OB/GYN complaints

Limitations and Weaknesses:

- Some parameters were not collected for many patients, so they were not included in the logistic regression model
- Many patients had multiple OB/GYN complaints
 - Complaints had to be coded under 7 headings to allow for analysis instead of looking purely at the original complaints
- Because of small sample size, dummy codes were created for categorical variables to run univariate analysis rather than being able to use multivariate analysis

Acknowledgements:

We are thankful for all the help from the Farmworker's Association of Florida, Jeannie Economos, the faculty and students of the UCF Comprehensive Medical Care Outreach Team, the volunteers, and generous local and state support.