Interprofessional education and collaboration is suggested as a means to improve the quality and efficiency of healthcare, reduce costs, and improve patient safety. In order to prevent medication errors, accurate medication histories are necessary across all healthcare settings. Within the dental practice setting, there is a lack of research regarding the frequency and type of medication discrepancies that occur during medication histories, as well as the clinical impact of these discrepancies in the context of dental treatment.

Interprofessional Practice Experience:

- Interprofessional teams of third professional year pharmacy and dental students collaborated to conduct health and medication histories for patients seeking dental treatment within a dental admissions clinic.

Methods

**Design:** Quasi-experimental, single-center, retrospective study

**Inclusion criteria**

- All charts from IP care days at the dental admissions clinic between 9/8/15-12/2/15 (fall semester) and 2/2/16-4/28/16 (spring semester).
- IP care: charts seen by a dental and pharmacy student team with a pharmacy medication history note.
- Standard care: charts seen only by the dental student from the IP care (matched-control). If there were multiple matched-controls, the chart with the most medications on intake was chosen for inclusion.

**Exclusion criteria**

- Charts of pregnant women and individuals <18 years of age.
- Charts that met inclusion criteria, but without a matched-control.

**Data collection**

- Demographic data, medication clarifications (number, type, and dose of clarifications), source of information, and pharmacy interventions to resolve discrepancies were collected.

**Data analysis**

- Demographics, medication clarifications, clinical significance, and pharmacy interventions were analyzed using descriptive statistics.
- Between-group differences were analyzed using chi-squared, Student’s t-tests, and Wilcoxon signed-rank tests as appropriate.
- A p-value of <0.05 was considered statistically significant.

**Results**

- **Demographics**
  - 257 patient charts were included from the Fall 2015 (n=133) and Spring 2016 (n=124) semesters.
  - A majority of patients were female (62.3%), African-American (54.5%), with a mean age (SD) of 51.1 (±17.3) years.
  - There were no significant differences between groups.

- **Total clarifications**
  - IP care had significantly more medication clarifications compared to standard care.

- **Potential impact of dental treatment on clinically significant drug omission clarifications**
  - A majority of these omissions are clinically significant with regards to the impact on dental treatment.
  - This finding reinforces previous literature that has shown the potential impact of their dental care from a dentist’s perspective.

- **Clinically significant medication clarifications**
  - A majority of these clarifications were related to dose, route, or frequency and were deemed clinically significant.

- **Clinical significance was evaluated globally if ≥1 drug omission clarification was identified**
  - Inter-rater reliability agreement between Dental 1 and 2 was 91.45%, kappa = 0.8277; p<0.001

- **Pharmacy interventions**
  - A majority of pharmacy interventions involved provider for medication-related problems that were identified.

**Discussion**

- This study demonstrates that pharmacy students on an interprofessional team increase the accuracy of medication histories, as evidenced by the significant number of medication clarifications compared to standard care.

- This study found that a majority (60%) of patients in the dental clinic setting omit at least 1 medication from their medication history.

- This study offers the potential to improve their dental care from a dentist’s perspective.

- A majority of these clarifications were related to dose, route, or frequency and were deemed clinically significant.

- Interprofessional care received additional pharmacy-related interventions, most commonly, adherence education, education on proper administration of medications, smoking cessation education, and recommendations to follow up with provider for medication-related problems that were identified.

**Conclusions**

- Interprofessional care had significantly more medication clarifications compared to standard care when conducting medication histories in dental patients.

- For patients with ≥1 drug omission clarification(s), a majority were deemed clinically significant with regards to the impact on dental treatment.

- The most common reasons for the potential impact these drug omissions have on dental treatment included chronic disease control, drug manifestations in the oral cavity, and bleeding risk.

- Interprofessional care received additional pharmacy-related interventions, most commonly, adherence education, education on proper administration of medications, smoking cessation education, and recommendations to follow up with provider for medication-related problems that were identified.

**References**

- Becerra-Camargo et al. BMC Health Serv Res. 2015;15:337.