Adherence to Oral Contraceptive Pills and Associated Factors Among Women with MarketScan Commercial Insurance

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BACKGROUND

~80% of sexually active U.S. women use oral contraceptive pills (OCPs). OCPs are 99% effective with perfect use.

Common adherence measures, e.g., proportion of days covered (PDC ≥0.8), may not reflect OCPs' strict daily adherence requirements.

Limited national claims-based evidence exists on OCP adherence predictors.

Understanding factors associated with OCP adherence is key to informing care strategies and improving contraceptive continuity.

OBJECTIVE

This study aims to evaluate adherence to OCPs and identify associated factors among commercially insured women in the United States.

METHODS

Study Design: Retrospective cohort study (Figure 1)

Data Source: Administrative claims (Merative™ MarketScan®) commercial database

Inclusion:

- ☑ Women aged 18–45 years at the index date
- ☑ ≥1 OCP prescription fill during the identification period
- ☑ Continuous medical and pharmacy enrollment during the 6-month pre-index and 12-month follow-up

Exclusion Criteria:

- ☒ Diagnosis of infertility or hysterectomy
- ☒ Discontinuous insurance enrollment during study period

METHODS

Figure 1. Study Design

-Baseline Period: January 1st – June 30th
-Identification Period: July 1st – December 31st
-Follow-up period was one year from the index date
-Adherence measurements were done for the one-year follow-up period from the index date

Statistical Analysis

- Descriptive statistics: Chi-square and t-tests
- Outcome: OCP adherence (PDC ≥0.8 vs <0.8)
- Logistic regression model
- Covariates included: Age group, Geographic region, Employment status, Out-of-pocket (OOP) costs (average and total), Comorbidities (diabetes, hypertension, hyperlipidemia, depression)
- Statistical significance is defined as $p < 0.05$
- SAS version 9.4 (SAS Institute, Cary, NC)

Adherence Measurement

- Proportion of days covered over 12 months
- Adherent defined as PDC ≥0.8

RESULTS

Table 1. Baseline Characteristics of the Commercial Population

	Adherent (n=93,042)	Non-Adherent (n= 266,434)	p-value
Age			
18-29	0.53	0.60	<.0001
30-39	0.24	0.25	
40-49	0.23	0.16	
Employee Status			
Active	0.85	0.85	0.0263
Other	0.15	0.15	
Region			
East	0.23	0.21	<.0001
North	0.18	0.18	
South	0.48	0.47	
West	0.11	0.13	
Diabetes			
Yes	0.01	0.00	<.0001
No	1.00	1.00	
Hyperlipidemia			
Yes	0.01	0.01	<.0001
No	0.99	0.99	
Hypertension			
Yes	0.02	0.01	<.0001
No	0.98	0.99	
Depression			
Yes	0.01	0.01	<.0001
No	0.99	0.99	

Table 2. Regression Model

	Odds Ratio (95% CI)	p- value
Age		
30-39	1.084 (1.074–1.114)	<.0001
40-49	1.597 (1.566–1.629)	<.0001
Employee Status		
Active	0.993 (0.972–1.015)	0.5284
Region		
North	0.945 (0.925–0.985)	<.0001
East	1.091 (1.071–1.113)	<.0001
West	0.782 (0.762–0.801)	<.0001
Diabetes	1.378 (1.240–1.530)	<.0001
Hypertention	1.254 (1.178–1.337)	<.0001
Hyperlipidemia	1.206 (1.125–1.294)	<.0001
Depression	1.151 (1.077–1.231)	<.0001

-Statistically significant difference p-value <0.05.

Regression Model Results

Older age was associated with higher adherence (30–39: OR 1.08; 40–49: OR 1.60)

Regional variation observed: higher adherence in the East (OR 1.09) and lower in the North (OR 0.95) and West (OR 0.78)

Employee status was not significantly associated with adherence (p=0.53)

Comorbidities were associated with higher adherence: diabetes (OR 1.38), hypertension (OR 1.25), hyperlipidemia (OR 1.21), and depression (OR 1.15)

DISCUSSION

- This study provides national, real-world evidence on adherence to oral contraceptive pills among commercially insured women.
- Overall adherence was low (~26%), highlighting challenges in maintaining consistent daily use
- Older women demonstrated higher adherence, possibly due to more stable routines and greater healthcare engagement.
- Regional variation suggests differences in access, provider practices, and structural factors influencing contraceptive use.
- Women with chronic conditions showed higher adherence, potentially due to increased healthcare interaction and established medication routines.

CONCLUSION

- Findings suggest that OCP adherence remains suboptimal and varies across key demographic and clinical subgroups.
- Targeted interventions are needed to improve adherence, particularly among younger women and lower-adherence regions.
- Future research should explore underlying behavioral and system-level factors influencing contraceptive adherence.