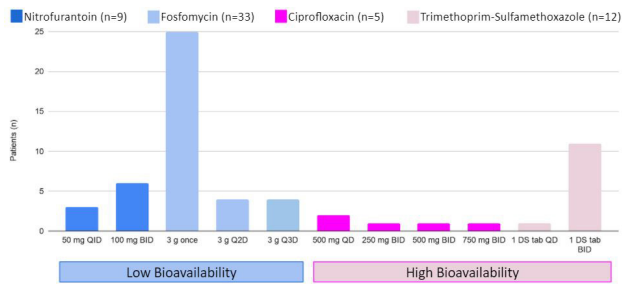Figure 1. Oral Antibiotics. QD: once daily, BID: twice daily, Q2D: every 2 days, Q3D: every 3 days, DS tab: double strength tablet

Conclusion. There was no difference in clinical failure, readmission rate, mortality rate, or change in antibiotic between the control and switch groups; however, the switch group was associated with reduced hospital length of stay and direct antibiotic cost.

196. Activity Impairment and Health-Related Quality of Life Associated with an Uncomplicated Urinary Tract Infection Among US Females

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Background. Uncomplicated urinary tract infections (uUTI) are among the most common infections in women; however, there are few data on the impact of uUTIs on daily activity and health-related quality of life (HRQoL).

Methods. This was a prospective, cross-sectional survey of US females aged ≥ 18 years with a self-reported uUTI in the 60 days prior to participation. Participants were included if they received oral antibiotic treatment and participated in surveys fielded by Dynata, Lucid/Federated, or Kantar Profiles. See **Table 1** for inclusion/exclusion criteria. Study objectives were to describe activity impairment (using the Activity Impairment Assessment [AIA]) and HRQoL (assessed with Short Form 36 version 2, Physical Component Score [PCS], Mental Component Score [MCS], and health utility index [SF-6D]) associated with uUTI. After screening, participants completed an online questionnaire on their most recent uUTI. Outcomes were reported with descriptive statistics, chi-squared tests, and t-tests. Analysis of HRQoL used 1:1 propensity score matching to compare to a matched US population from the 2020 National Health and Wellness Survey.

Table 1. Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
• Female • Age 12 years or older* • A resident of the United States • Self-reported uUTI in the previous 60 days • Treatment with an oral antibiotic for uUTI • Ability to read English • Provision of informed consent for the study	• Self-reported diagnosis for any of the following conditions indicative of cUTI in the 6-month period before oral antibiotic treatment for UTI: urologic abnormalities, ureteral abnormalities, interstitial cystitis, pyelonephritis, kidney stones, renal failure, congenital urological abnormalities, organ transplant, neurological disease • Self-reported diabetes with an unknown or uncontrolled HbA1c level (defined as ≥ 7% by the American Diabetes Association 2011) • Self-reported receipt of any immunosuppressive therapy at the time of developing a UTI • Any UTI identified in the previous 60 days as having occurred during an inpatient hospitalization or stay at a long-term care facility • Initial UTI-associated antibiotic treatment received during an inpatient hospitalization • Pregnancy at the time of receiving UTI-associated oral antibiotic treatment • Asymptomatic when diagnosed with a UTI (i.e. only diagnosed due to a positive urine culture with no other UTI symptoms present) • Diagnosis of COVID in the past 12 months

*Despite this criterion, no participants were < 18 years of age.

cUTI, complicated urinary tract infection; HbA1c, glycated hemoglobin; UTI, urinary tract infection; uUTI, uncomplicated urinary tract infection.

Results. In total, 375 participants completed the questionnaire. Common impaired activities were: sexual intercourse (66.9%), sleep (60.8%), exercise (52.3%), housework (51.5%), and social activities (46.9%; **Table 2**). Overall mean AIA score was 11.1/20 (higher score = more impairment). Most participants (58.7%) had a PCS that was the same or better than the matched population, while for MCS, most participants (52.8%) had scores well below the matched population average. Overall PCS, MCS, and

SF-6D composite scores were 46.5, 40.0, and 0.63, respectively; these outcomes were significantly worse compared to the matched population, most notably MCS (**Table 3**). Stratification by number of antibiotics used revealed statistically significant differences in the effect of uUTI on exercise, PCS, SF-6D (based on use of 1 or ≥ 3 therapies), and on sleep (based on use of 2 or ≥ 3 therapies; **Table 4**).

Table 2. Activities impacted by uUTI

Activities impacted by uUTI (N=375)	n (%)
Sexual intercourse	251 (66.9)
Sleeping	228 (60.8)
Exercise	196 (52.3)
Housework/chores	193 (51.5)
Social activities	176 (46.9)
Shopping/running errands	145 (38.7)
Work outside the home	89 (23.7)
Studying	29 (7.7)
Childcare	24 (6.4)
Other	21 (5.6)

uUTI, uncomplicated urinary tract infection.

Table 3. Matched analysis of SF-36v2-measured HRQoL outcomes

	uUTI cohort N=375	Matched US population* 2020 N=375	
Outcomes (unadjusted)	**Mean (SD)**	**Mean (SD)**	**Incremental burden of uUTI**
PCS‡	46.5 (8.1)	51.2 (9.7)	-4.7†
MCS§	40.0 (12.6)	46.9 (11.2)	-6.8†
SF-6D¶	0.63 (0.12)	0.72 (0.14)	-0.1†
Outcomes (adjusted)	**Mean (SD)**	**Mean (SD)**	**Incremental burden of uUTI**
PCS‡	46.4 (0.4)	51.3 (0.4)	-4.9†
MCS§	40.0 (0.5)	46.9 (0.5)	-6.9†
SF-6D¶	0.63 (0.01)	0.72 (0.01)	-0.1†

*Derived from the NHWS 2020; †statistically significant difference (p < 0.0001); ‡PCS score displayed worse functioning compared to other acute infections (e.g. acute nasopharyngitis [PCS=48.2] and acute tracheitis [PCS=48.4]); §MCS score at or below the same impact of both acute and chronic (e.g. acute nasopharyngitis [MCS=41.6], acute tracheitis [MCS=41.4] and osteoarthritis [MCS=41.7]); ¶a score reduction of 0.37 is above the MCID threshold for SF-6D (mean 0.041).

HRQoL, health-related quality of life; MCID, minimal clinically important difference; MCS, mental component score; NHWS, national health and wellness survey; PCS, physical component score; SD, standard deviation; SF-6D, health utility index; SF-36v2, short form 36 version 2; uUTI, uncomplicated urinary tract infection.

Table 4. Outcomes stratified by number of oral antibiotics used to treat last uUTI

Activities impacted by uUTI, n (%)	1 AB (n=235)	2 AB (n=88)	≥ 3 AB (n=52)	1 vs 2 (p-value)	1 vs 3 (p-value)	2 vs ≥ 3 (p-value)
Sexual intercourse	157 (66.8)	59 (67.0)	35 (67.3)	0.968	0.945	0.975
Sleeping	147 (62.6)	45 (51.1)	36 (69.2)	0.063	0.365	0.036*
Exercise	118 (50.2)	44 (50.0)	34 (65.4)	0.973	0.047*	0.077
Housework/chores	116 (49.4)	50 (56.8)	27 (51.9)	0.233	0.738	0.574
Social activities	106 (45.1)	45 (51.1)	25 (48.1)	0.334	0.697	0.727
Shopping/running errands	86 (36.6)	39 (44.3)	20 (38.5)	0.205	0.801	0.498
Work outside the home	51 (21.7)	26 (29.5)	12 (23.1)	0.141	0.828	0.406
Studying	15 (6.4)	7 (8.0)	7 (13.5)	0.618	0.083	0.294
Childcare	13 (5.5)	6 (6.8)	5 (9.6)	0.662	0.338	0.537
Other	13 (5.5)	5 (5.7)	3 (5.8)	1.000	1.000	1.000
PCS vs matched population, n (%)						
Well below	48 (20.4)	21 (23.9)	19 (36.5)	0.548	0.030*	0.102
Below	43 (18.3)	19 (21.6)	5 (9.6)	–	–	–
Same or better	144 (61.3)	48 (54.5)	28 (53.8)	–	–	–
MCS vs matched population, n (%)						
Well below	115 (48.9)	51 (58.0)	32 (61.5)	0.353	0.104	0.436
Below	29 (12.3)	9 (10.2)	8 (15.4)	–	–	–
Same or better	91 (38.7)	28 (31.8)	12 (23.1)	–	–	–
HRQoL (SF-36v2), mean (SD)						
PCS	47.3 (7.8)	45.5 (8.1)	44.6 (9.0)	0.069	0.028*	0.540
MCS	40.6 (12.9)	39.4 (12.6)	38.4 (11.1)	0.475	0.253	0.615
SF-6D	0.65 (0.12)	0.62 (0.12)	0.60 (0.10)	0.147	0.006*	0.297
AIA score, mean (SD)	11.3 (5.7)	11.2 (6.0)	10.3 (5.3)	0.908	0.234	0.355

*Statistically significant difference (p < 0.05).

AB, antibiotic; AIA, activity impairment assessment; HRQoL, health-related quality of life; MCS, mental component score; PCS, physical component score; SD, standard deviation; SF-36v2, short form 36 version 2; SF-6D, health utility index; uUTI, uncomplicated urinary tract infection.

Conclusion. uUTIs are significantly associated with adverse patient outcomes for daily activities and HRQoL, compounded by suboptimal treatment evident by the use of multiple antibiotics. MCS was notably affected, which is important as this is not often studied in uUTI.