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Clinical preferences and treatment attitudes among urologists, gynecologists, and geriatricians: An independent online questionnaire survey for comparison of treatment choices in the management of overactive bladder

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Abstract

Objective: Overactive bladder (OAB) is a common clinical problem with associated morbidities both in men and women. Although real-life management strategies have been examined among urologists (URO), treatment choices may differ between different specialties. In the present study, an online survey was conducted to determine and compare the management strategies and clinical preferences of UROs, obstetricians/gynecologists (OB/GYN), and geriatricians (GER) in the treatment of OAB in their daily practices.

Methods: Between December 2020 and February 2021, an online questionnaire was sent to URO, OB/GYN, and GER specialists/residents. Current strategies and attitudes toward treatment of OAB in patients <65 years were compared between URO and OB/GYN, whereas the responses were compared between all three specialties in patients ≥65 years.

Results: A total of 733 specialists/physicians (433 URO, 236 OB/GYN, and 64 GER) completed the online survey. Patients with OAB were more likely to present to URO compared to OB/GYN and GER ($p = 0.001$). A combination of behavioral modification and pharmacotherapy (antimuscarinics and/or beta-3 agonists) were chosen for the initial treatment of patients with OAB in both specialties with a significantly higher proportion by URO than by OB/GYN (51.9% vs. 38.1%; $p = 0.001$). Antimuscarinics were the most frequently prescribed medications by both the URO and OB/GYN specialties (81.8% vs. 78.4%; $p = 0.27$). Combination therapy with antimuscarinics was preferred more often by URO (91.5% vs. 77.1%; $p = 0.001$) when no or an inadequate response after initial treatment occurred. Multiple medication use, comorbidities, and risk of cognitive side effects affected medication preference by all specialists, especially by GER ($p = 0.018$).

Conclusions: Patients with OAB present to UROs, OB/GYN and GER more frequently compared to other specialities. Although antimuscarinics and beta-3 adrenoceptor agonists are equally recommended as first-line pharmacotherapy for OAB, antimuscarinics were preferred for most patients as the initial molecule by all specialties. Beta-3 agonists are increasingly preferred for elderly patients.

KEYWORDS
antimuscarinic, beta-3 agonist, drug, overactive bladder, treatment, preferences

1 | INTRODUCTION

Overactive bladder (OAB) is a clinical syndrome defined as urinary urgency with or without urinary incontinence, usually with frequency and nocturia.[1] Based on various definitions, the prevalence of OAB varies from 11.8% to 45.9%.[2–4] Age is reported to be a common risk factor for OAB, and OAB prevalence increases in the elderly population.[5,6] Current guidelines recommend conservative methods as the first-line treatment in OAB management.[7,8] Two groups of drugs are used for OAB treatment: (1) antimuscarinics and (2) beta-3 agonists.[9–11] Efficacy and side effects are the key factors in the drug selection by all physicians. However, once-daily use, flexible dosing, and possibility of increasing the dose are also important for drug choices. Age of patient, cognitive capabilities, and comorbidities (hypertension, cardiac problems, Alzheimer's disease, dementia, and others) are factors that are also considered in drug selection.[11]

Antimuscarinics are recommended as one of the two groups of drugs for pharmacological management of symptomatic OAB. However, efficacy and tolerability are the major concerns that lead to low compliance with these drugs. In a recent systematic literature review, discontinuation rates of 62%–100% were observed in the first year of treatment.[12] Despite the fact that antimuscarinics are the most commonly prescribed drugs, an increase in prescriptions for mirabegron and other central nervous system sparing molecules has occurred. It has also been shown that after beta-3 agonists were available in the market, a shift in prescription habits of the physicians has occurred.[13,14]

In clinical practice, patients with OAB also present to and are treated by urologists (URO), obstetricians and gynecologists (OB/GYN), and geriatricians (GER). Treatment choices can vary due to several factors and prescription differences may occur between specialties. To our knowledge, studies evaluating the attitudes in treatment approaches between different specialties are limited. Therefore, this study used an online survey to determine the attitudes and clinical preferences of URO, OB/GYN, and GER in the treatment of OAB.

2 | MATERIAL AND METHODS

The study protocol was approved by the local ethics committee (Institutional Review Board, Number: 09.2021/129). The questionnaire was developed by all authors after evaluating the recent data related to the physicians' daily practice and treatment attitudes toward OAB. Overall, 50 questions were developed for review. Twenty-eight questions out of 50 were selected after comprehensive review. The questions were chosen based on the methodology for conducting online questionnaire.[15] Language was clear to avoid bias. All questions were presented with multiple-choice answers and were close ended based on the expertise of the respondents. Four items were used to evaluate demographic factors, two items were used to evaluate daily outpatient routines and frequency of encountering OAB, and six items were used to determine the initial treatment approach in primary patient with OAB. Four items were used to evaluate secondary treatment options, including treatment combinations, four items were used evaluate the medication choice in elderly patients, and two items were used to determine the reason why they chose the treatment option and did not prefer a related medication. Two items were used to evaluate side effects and three items were used to evaluate continuation or discontinuation of the medication and their reasons for doing so.

The content validity was evaluated by four experts outside the study group with an average scale-level validity index and was found to be 0.91. A list-based method was used for sending the questionnaire. The e-mail lists of URO, OB/GYN, and GER specialties were used to send the online survey. Software (Google Forms®) used for administration and management of the survey

and IP restriction was used to prevent repetition. A survey link was individualized, and it was sent three times between December 2020 and February 2021. We have only few centers in our country with an established urogynecology clinic. Thus, OB/GYN were generalists and 34.7% of the participants for OB/GYNs were in academic centers as given in Table 1. There was no restriction for including specialists from teaching hospital, local hospitals or private practice.

Current strategies and attitudes for treatment of OAB in patients younger than 65 years were compared between URO and OB/GYNs. Since GERs evaluate only patients aged 65 and over, responses between URO, OB/GYN, and GERs in patients older than 65 years of age were compared. Patient referral system is not family physician based in our country. Patients can schedule an appointment for URO and OB/GYN but not GER. Patients are referred by internal medicine specialists to GER. Patients who were not index and with a complex history were all referred to URO and not questioned in this survey. Moreover, due to health care system, primary care physicians or referring physicians were not allowed to prescribe medication for OAB, so we focused entirely on preferences of specialists who were in one common national system.

Validated OAB questionnaires and national version of the European association of urology bladder diary are available for the evaluation of the patients. In our country, all antimuscarinics and only mirabegron as a beta-3 agonist can be prescribed by URO, OB/GYN, and GER without restriction and because of a common national health care system all drugs re-imbursed without any payment of patients.

2.1 | Statistical analysis

Statistical analysis was performed using the SPSS program (IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0; IBM Corp.). Descriptive data were analyzed quantitatively and expressed as numbers and frequencies (%). Correlations between subject area and responses to questions were analyzed using the appropriate χ^2 test (Pearson's χ^2 or Fisher–Freeman–Halton exact test).

TABLE 1 Demographic characteristics of the participants

	URO (%) ($n = 433$)	OB/GYN (%) ($n = 236$)	GER (%) ($n = 63$)	p Value*
Age				
≤45	322 (74.4)	175 (74.2)	53 (84.1)	0.225
>45	111 (25.6)	61 (25.8)	10 (15.9)	
Work as				
Resident or specialist	295 (68.1)	154 (65.3)	37 (58.7)	0.304
Academics	138 (31.9)	82 (34.7)	26 (41.3)	
Time as a specialist				
≤10 years	266 (61.4)	121 (51.3)	44 (69.8)	0.007
>10 years	167 (38.6)	115 (48.7)	19 (30.2)	
Number of outpatient clinic visit per week				
≤200	336 (77.6)	192 (81.4)	61 (96.8)	0.001
>200	97 (22.4)	44 (18.6)	2 (3.2)	
The rate of the OAB patients in outpatient clinic visit				
Over 20%	43 (9.9)	12 (5.1)	15 (23.8)	0.001
10%–20%	196 (45.3)	26 (11)	15 (23.8)	
5%–10%	144 (33.3)	65 (27.5)	20 (31.7)	
<5%	50 (11.5)	133 (56.4)	13 (20.6)	

Abbreviations: OAB, overactive bladder; OB/GYN, obstetricians and gynecologists; GER, geriatricians; URO, urologists.

*Pearson's χ^2 test.

When statistically significant results were obtained, a post-hoc *z*-test with Bonferroni correction was used to determine the specialty that caused a significant difference in responses. $p < 0.05$ was set as the statistical significance level.

3 | RESULTS

A total of 733 participants from 2978 (25.9%) physicians listed in the mailing of three specialties completed the survey. All specialists were registered to the mailing list of the societies and they represent all regions of the country. The reasons reported by the nonrespondents were not having enough time to complete and the inability to finish the survey. However, most of them reported no reason for not completing it.

A total of 433 URO, 236 OB/GYN, and 64 GER specialists/residents responded to the survey. Of the 733 respondents, 74.4%, 74.2%, and 84.1% of the groups were younger than 45 years, respectively ($p = 0.225$). As shown in Tables 1, 38.6% of the participants in URO, 48.7% of the participants in OB/GYN, and 30.2% of the participants in GER have been working as specialists for more than 10 years. Although, the response rate was not compared between senior and younger specialties, we examined all specialists at different age groups and randomly questioned them which reflects the real world situation as folllows: Of the respondents, only 9.9% of the participants in URO, 5.1% of the participants in OB/GYN, and 23.8% of the participants in GER were mainly focused on OAB (Table 1). The high rate of OAB patient presenting to GER is not surprising since OAB syndrome is common morbidity in this age group with concomitant diseases.

3.1 | URO and GYN responses for the management strategies of OAB in patients younger than 65 years of age

The initial comparison for behavioral and pharmacological management strategies between URO and OB/GYNs were performed in patients younger than 65 years. A combination of behavioral modification and pharmacotherapy (antimuscarinics and/or beta-3 agonists) was chosen by both specialties in the initial step with a significantly higher preference by URO (51.9% vs. 38.1%; $p = 0.001$). Additionally, OB/GYNs more frequently preferred topical estrogen (in the presence of postmenopausal vaginal atrophy) than UROs (1.6% vs. 17.37%; $p = 0.001$) as shown in Table 2.

Antimuscarinics were the most frequently prescribed drugs in both specialties (81.8% vs. 78.4%; $p = 0.27$). However, when they chose to combine antimuscarinics and beta-3 agonists, the combination of these two groups were preferred more commonly by OB/GYNs than UROs (7.2% vs. 2.8%; $p = 0.007$). Both specialties initially chose antimuscarinics because they believed antimuscarinics have higher efficacy than beta-3 agonists. In addition to efficacy, patient age (57.3%) and availability of a once-daily dose (42.4%) were the other factors influencing drug choice by URO and OB/GYNs, respectively ($p = 0.001$). Physicians in both groups were reluctant to prescribe antimuscarinic treatment when they recognized cognitive dysfunction (38.6% in URO and 19.1% in OB/GYNs) and cardiac problems (30.5% in OB/GYNs and 9.5% in URO; $p = 0.001$) as shown in Table 3.

Six different groups of antimuscarinic medications used for the treatment of OAB and all these molecules are available in our country. When physicians were asked about their first choice of antimuscarinic agents, solifenacin was the most frequently preferred drug in both specialties with a higher preference rate by URO compared to OB/GYN (58.2% vs. 28.8%; $p = 0.002$). The rates of prescription of antimuscarinics by both URO and OB/GYN are shown in Table 3. When inadequate or no response was detected, URO preferred increasing the antimuscarinic dose (30.1%) or switching to another antimuscarinic (30.9%), while OB/GYN preferred increasing the antimuscarinic dose in 35.6% of cases or switching to a beta-3 receptor agonist in nearly one-fourth of cases (22.9%; $p = 0.003$) as shown in Table 3. Combination therapy was preferred more often by URO (URO 91.5%, OB/GYN 77.1%, $p = 0.001$) when no or inadequate response to a beta-3 receptor agonist was observed. Solifenacin was the most frequently used antimuscarinic agent for combination therapy with beta-3 agonists in (URO 67.2%, OB/GYN 37.7%; $p = 0.001$) as shown in Table 3.

3.2 | Responses of URO, GYN, and GER to questionnaire for OAB management strategies in patients older than 65 years

The second part of the online survey compared the OAB practices of URO, OB/GYN, and GER in patients aged 65 years and older. Comorbidities in the elderly population were reported to affect treatment strategies and pharmacological choices (Table 4). Multiple medication use, which may increase cognitive side effects, also proved to be an important factor in medication selection by all specialists and significantly more considered by GER (URO 95.8%, OB/GYN 92.4%, GER 100%; $p = 0.018$) as

TABLE 2 Behavioral and pharmacologic management strategies of two specialties in patients with OAB

	URO (%) ($N = 433$)	OB/GYN (%) ($n = 236$)	p Value
What is the initial treatment option in patients with OAB?			
Behavioral modification	143 (33)	82 (34.74)	0.653
Behavioral modification and topical estrogen (in the presence of postmenopausal vaginal atrophy)	7 (1.61)	41 (17.37)	0.001
Pharmacotherapy	58 (13.39)	23 (9.74)	0.167
Combination of behavioral modification and pharmacotherapy	225 (51.9)	90 (38.13)	0.001
Which treatment option do you prefer in patients with OAB?			
Anticholinergics	354 (81.8)	185 (78.4)	0.27
Beta-3 receptor agonist	67 (15.5)	34 (14.4)	0.17
Combination of anti-cholinergics and beta-3 receptor agonist	12 (2.8)	17 (7.2)	0.007
What is the main reason for the treatment option?			
More efficient	189 (43.6)	101 (42.8)	0.042
Dose adjustment	70 (16.2)	28 (11.9)	0.153
Less side effects	91 (21)	44 (18.6)	0.381
Efficiency-cost relationship (lower price)	83 (19.2)	63 (26.7)	0.042
Which factor most influences your medication choice?			
Patient age	248 (57.3)	90 (38.1)	0.001
Single dose per a day	115 (26.6)	100 (42.4)	0.001
Dose adjustment	70 (16.2)	46 (19.5)	0.278

Abbreviations: OAB, overactive bladder; OB/GYN, obstetricians and gynecologists; URO, urologists.

shown in Table 4. Nevertheless, antimuscarinics (57.1%) were still the initial choice by GERs, too. In elderly patients, beta-3 agonists were more often preferred by URO (53.3%) and OB/GYNs (53.8%) than by GER ($p = 0.003$) as shown in Table 4.

When antimuscarinic treatment was chosen in elderly OAB patients, trospium (27.4%) and solifenacin (27%) were equally preferred by UROs. OB/GYNs prescribed solifenacin in 22%, oxybutynin in 15.7%, and tolterodine in 15.3% of their patients. Trospium (42.9%) and solifenacin (20.6%) were two most frequent molecules prescribed by GERs when choosing antimuscarinic agents in this age group. When the factors affecting drug choice were evaluated, cognitive impairment was the most frequently considered factor (UROs 55.2%, OB/GYNs 58.9%, and GERs 65.1%). Similarly, the drugs that do not or only slightly cross the blood–brain barrier (URO 40%, OB/GYNs 25%, and GERs 30.2%), and the drugs with minimal side effects (UROs 4.8%, OB/GYNs 16.1%, and GERs 4.8%) were found to be considered when prescribing the antimuscarinic treatment in the elderly population (Table 4).

4 | DISCUSSION

To best of our knowledge, this study is the first and largest online survey in our country evaluating the attitudes and treatment approaches of three different specialists for patients with OAB. The sample size was statistically sufficient for evaluating the routine practice in our country. Current guidelines suggest conservative treatments, such as lifestyle changes (fluid management, weight loss, reducing tea and coffee consumption) and bladder training and pelvic floor muscle exercises as the first-line treatment of OAB.[11,16,17] Behavioral therapy is a well-known treatment modality that leads to a 50%–80% reduction in symptoms in the cases when consistently applied.[18] Bladder training and pelvic floor muscle

TABLE 3 Preferences of physicians and factors related to anticholinergics

	URO (%) ($n = 433$)	OB/GYN (%) ($n = 236$)	p Value
What is the most preferred anticholinergic?			
Oxybutynin	15 (3.5)	57 (24.2)	0.001
Tolterodine	65 (15)	56 (23.7)	0.005
Darifenacin	11 (2.5)	18 (7.6)	0.002
Solifenacin	252 (58.2)	68 (28.8)	0.002
Fesoterodine	33 (7.6)	14 (5.9)	0.19
Trospium chloride	13 (3)	5 (2.1)	0.25
Propiverine	44 (10.2)	18 (7.6)	0.16
In which case would you not prefer anticholinergics, apart from their contraindications?			
Patients older than 65 years	36 (8.3)	30 (12.7)	0.21
Patients with cardiac problems	41 (9.5)	72 (30.5)	0.001
Patients with cognitive dysfunctions	167 (38.6)	45 (19.1)	0.001
If there are complaints of dry mouth and constipation before taking the drug	137 (31.6)	66 (28)	0.34
Frail elderly	37 (8.5)	5 (2.1)	0.34
Other	15 (3.5)	18 (7.6)	0.23
What is the preferred option for inadequate or no response to treatment?			
Increasing the anticholinergic dose	130 (30)	84 (35.6)	0.44
Switching to another anticholinergic	134 (30.9)	50 (21.2)	0.007
Switching to a beta-3 agonist	67 (15.5)	54 (22.9)	0.017
Combination with beta-3 agonist	101 (23.3)	45 (19.1)	0.34
Botulinum toxin injection or percutaneous tibial nerve stimulation	1 (0.2)	3 (1.3)	0.28
If pharmacological treatment with a beta-3 receptor agonist does not respond or responds inadequately: would you recommend combination therapy with an anticholinergic?			
Yes	396 (91.5)	182 (77.1)	0.001
No	37 (8.5)	54 (22.9)	
Which anticholinergic drug do you most often combine with a beta-3 receptor agonist?			
Oxybutynin	11 (2.5)	45 (19.1)	0.001
Tolterodine	53 (12.2)	51 (21.6)	0.001
Darifenacin	8 (1.8)	17 (7.2)	0.001
Solifenacin	291 (67.2)	89 (37.7)	0.001
Fesoterodine	19 (4.4)	9 (3.8)	0.45
Trospium chloride	15 (3.5)	13 (5.5)	0.34
Propiverine	36 (8.3)	12 (5.1)	0.47

Abbreviations: URO, urologists; OB/GYN, obstetricians and gynecologists.

TABLE 4 Responses of urologists, gynecologists, and geriatricians for the elderly (>65 years of age) patients with OAB

	URO (%) ($n = 433$)	OB/GYN (%) ($n = 236$)	GER (%) ($n = 63$)	p Value[a]
Do comorbidities in elderly OAB patients affected medication choice?				
Yes	420 (97)	227 (96.20)	63 (100)	0.332
No	13 (3)	9 (3.80)	0 (0)	
Which treatment option do you prefer in patients with OAB?				
Anticholinergics	190 (43.9)	90 (38.1)	36 (57.1)	0.003
Beta-3 agonists	231 (53.3)	127 (53.8)	26 (41.3)	
Combination	12 (2.8)	19 (8.1)	1 (1.6)	
Is anticholinergic burden affects your medication preference?				
Yes	415 (95.8)	218 (92.4)	63 (100)	0.018
No	18 (4.2)	18 (7.6)	0 (0)	
The most preferred anticholinergic in elderlry (>65 yrs of age)?				
Oxybutynin	14 (3.2)	37 (15.7)	3 (4.8)	0.001
Tolterodine	31 (7.2)	36 (15.3)	3 (3.2)	
Darifenacin	24 (5.5)	23 (9.7)	6 (9.5)	
Solifenacin	117 (27)	52 (22)	13 (20.6)	
Fesoterodine	53 (12.2)	17 (7.2)	7 (11.1)	
Trospium chloride	119 (27.5)	32 (13.6)	27 (42.9)	
Propiverine	29 (6.7)	12 (5.1)	0 (0)	
I do not differentiate between anticholinergic agents	46 (10.6)	27 (11.4)	5 (7.9)	
What should be considered in the use of anticholinergic drugs in an elderly OAB patient?				
To evaluate cognitive impairment and not to use drugs with anticholinergic load concurrently	239 (55.2)	139 (58.9)	41 (65.1)	0.001
Using anticholinergic agents that do not cross the blood–brain barrier	173 (40)	59 (25)	19 (30.2)	
Whether an increase in dry mouth or constipation and tachycardia occur	21 (4.8)	38 (16.1)	3 (4.8)	

Abbreviations: OAB, overactive bladder; OB/GYN, obstetricians and gnecologists; GER, geriatricians; URO, urologists.

[a]Fisher exact test.

training were also found to be beneficial for reducing urge and urinary incontinence symptoms.[19] Although this training has been suggested as the first-line treatment, in our cohort, both UROs and OB/GYNs commonly preferred the combination of behavioral therapy and pharmacotherapy as the first-line treatment of OAB with a significantly higher preference rate by UROs versus OB/GYNs (51.9% vs. 38.1%; $p = 0.001$). This finding may be due to the limited time allottment for evaluation of high number of patients at outpatient clinics. Similarly, the educational levels and sociocultural statuses of patients and expectations of possible non-compliance to the suggested behavioral therapies might also affect physician preferences for adding pharmacotherapy in combination treatment. In a recent study, it was reported that the combination of behavioral therapy and medication was preferred by physicians at a rate of 69.9% in women and 67.3% in men for the initial treatment of OAB.[20] In another study, behavioral therapy (bladder training) and solifenacin were combined, and improvement was observed in patients' frequency symptoms.[21] Difficulties for patients to keep their appointments, patient's expectations, and the physicians' opinions that a better result could be obtained with the combined treatment were previously reported to be common reasons for choosing combination therapy.[22]

Antimuscarinics and beta-3 agonists have similar efficacies for the symptomatic treatment of OAB and have been shown to be significantly better than placebo.[23,24] Despite the well-known similarity in efficacy and level of recommendation, antimuscarinics were highly preferred both by UROs and OB/GYNs in our study (81.8% vs. 78.4%; $p = 0.27$). When the primary reason for choosing antimuscarinics were examined, respondents answered as they consider this group of medications were more effective than beta-3 agonists (UROs 43.6%, OB/GYNs 42.8%; $p = 0.096$). In a recent study, Soda et al. examined compliance, drug switching, and treatment preferences in terms of OAB management. Similar to our results, 72% of patients were initially prescribed antimuscarinics, and 28% were prescribed mirabegron.[25] Recently, Sripad et al. reviewed the choice of drug preferences for prescription between 2014 and 2018 and reported an increase in mirabegron use (from 5.7% to 20.1%) for the symptomatic treatment of OAB. However, antimuscarinics still constituted a greater proportion of total prescriptions as found in the medical records.[26] In another study comparing primary care providers, UROs, OB/GYNs, and other specialties' prescription patterns for OAB showed that mirabegron preference increased during the period from 2013 to 2017, and UROs prescribed mirabegron more frequently compared to other specialties.[27]

In the present study, the most preferred drug among antimuscarinics was solifenacin with a significantly higher rate by UROs versus OB/GYN (58.2% vs. 28.2%; $p = 0.001$). In a similar treatment preference review performed in Denmark, Sweden, and the United Kingdom, solifenacin was chosen in 39% and tolterodine in 35% of the prescriptions in Denmark. In Sweden, 37% of the physicians prescribed tolterodine as the first line and solifenacin as second line (35%) treatment. In the United Kingdom, patients were prescribed oxybutynin in 28%, whereas solifenacin was preferred in 27%, and tolterodine in 26% of the cases.[28] The authors reported that a change in prescription patterns had occurred, and solifenacin was chosen more frequently than other drugs. It should also be noted that oxybutynin in an extended release form with less side effects are available in United Kingdom. Solifenacin was found to be the most frequently prescribed drug in our study. Several factors may be associated with a higher rate of solifenasin preference, such as drug availability due to numerous generics, promotion of this molecule by more than nine companies, easy accessibility at pharmacies and flexible dosing of the drug. Suggestions of national and international guidelines may also play a role in the drug prescribing choices.

Dose-escalation and switching to another antimuscarinic agent or combination of antimuscarinic and beta-3 receptor agonists are treatment choices in patients who did not respond or inadequately responded to antimuscarinic treatment. Adverse events are also play a critical role for the drug switch.[11] In the CONTROL study, use of antimuscarinics for treatment of OAB were reviewed, and of the patients, 35% reported to be using two or more antimuscarinics, and more than 80% of the patients needed additional management for their symptoms.[29] Similarly, Syan et al. evaluated the factors that influence advanced therapy for refractory OAB and reported that 18% of the patients received one medication, while only 4% received two, and 1% received three or more types of oral medications for OAB.[30] Compliance with antimuscarinic medications is an important factor for switching therapy. In our study, UROs preferred to increase the dose of the antimuscarinic (30.1%) or using a different antimuscarinic (30.9%) in cases in which a better response was sought, whereas increasing the dose of the antimuscarinic (35.6%) or switching to a beta-3 receptor agonist (22.9%) was the next step by OB/GYNs ($p = 0.004$). The reason for the insistence on using antimuscarinics may be attributed to their perception that that this group of molecules are more efficacious than beta-3 receptor agonist as they have stated in the questionnaire replies.

In recent years, patient age, cognitive functions, additional comorbidities (hypertension, cardiac problems, Alzheimer's, dementia, glaucoma, and other conditions) and other factors have been considered more commonly in drug selection of OAB treatment.[11,16] Recently, growing evidence suggests that there is an increase in the risk of cognitive impairment, dementia, and delirium, especially in elderly population especially with prolonged use of antimuscarinics.[31,32] Menhaji et al. reported changes for OAB prescriptions and showed that almost all of the participants in their survey reported that they were aware of recent precautions (99.1%), and 90.5% of participants had changed their daily practice. Common practice before the release of the recent evidence were reported to be using “noncentral nervous system-sparing” antimuscarinics (oxybutynin, tolterodine, solifenacin) in 64.4% of cases, and respondents mainly switched their prescribing pattern to beta-3 receptor agonists (58.5%). The authors stated that higher rates of the participants who were less than 5 years out of training switched their practice compared to participants over 5 years out. In patients with uncontrolled hypertension attacks, of whom mirabegron cannot be used, 51.5% of participants preferred “nervous system-sparing” antimuscarinics.[14] Despite the current literature, results from this study indicated that antimuscarinics are highly

preferred for the initial and combination treatment of OAB. Several explanations for this preference may be long-term availability of antimuscarinics in the market, cost-efficacy, and the prescribing habits of physicians.

When pharmacological treatment selections were compared for use in the elderly population, physician preferences for antimuscarinic drugs significantly decreased for elderly OAB patients. It also has been shown that concurrent use of multiple drugs with antimuscarinic properties and potentially increased cognitive side effects were considered when selecting a treatment regimen ($p = 0.018$). However, antimuscarinics were also highly preferred by GERs (57.1%) for the initial pharmacological management. More than half of the UROs and OB/GYNs (53.3% and 53.8%, respectively) chose to use beta agonists as an initial treatment agent in the elderly population. Before the mirabegron era, it was shown that solifenacin, oxybutynin, and tolterodine were commonly prescribed for elderly patients.[33] In the study by Chua et al., oxybutynin was found to be the most prescribed drug, and mirabegron became the second most prescribed antimuscarinic agent between 2013 and 2017. The previously mentioned trends did not even change in patients ≥65 years old. They also showed that antimuscarinics (trospium, darifenacin, and fesoterodine), which produce lower cognitive side effects, were preferred for later stages of treatment.[34] In our study, among the antimuscarinic preferences in elderly OAB patients, trospium (URO 27.5%, GER 42.9%) and solifenacin (URO 27%, GER 20.6%) were the preferred drugs by URO and GER, while solifenacin (22%), oxybutynin (15.7%), and tolterodine (15.3%) were preferred by OB/GYNs. The quaternary molecular structure of trospium and noncrossing capability of blood–brain barrier of trospium might be the reason for choosing for this molecule.

We should acknowledge several limitations of our study. The main limitation is low response rate. Another potential limitation was enrollment of only female patients in OB/GYN group, and inclusion of patients older than 65 years in GER group. Thus, we did not examine potential gender differences in prescription habits and treatment seeking. The information collected in the survey was based on physician-reported responses and hence, is subjective. A correlation of prescribed pharmaceutical agents collected through official pharmaceutical databases would be more informative. However, the survey group had more than 700 participants, which allowed a suitable sample size to contribute to understanding real-world choices. Beside limitations, our study has several strengths. The main strengths of this survey are the inclusion of different specialists involved with the treatment of OAB, evaluation by a detailed questionnaire and investigation of all treatment preferences with associated reasons for choice. Thus, the data is the first for our country that reflect real-life management strategies for OAB treatment.

5 | CONCLUSION

Patients with OAB present to UROs, OB/GYN and GER more frequently compared to other specialities. Although antimuscarinics are the first choice in pharmacological management of OAB by all specialties, beta-3 agonists are increasingly used especially in the elderly patients. Multiple medications, which may exacerbate cognitive side effects were found to influence drug preference for elderly OAB patients. However, a lack of evidence about current trends for the treatment of OAB exists; thus, further studies with larger series from different specialties are needed.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Marmara University, Institutional Ethical Board, Number: 09.2021/129, Date: 08.01.2021. Informed consent was obtained from all participants.

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