

ORIGINAL ARTICLE

Understanding patient and physician perceptions of male androgenetic alopecia treatments in Asia–Pacific and Latin America

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ABSTRACT

This survey aimed to explore patient and physician attitudes towards male androgenetic alopecia (AGA), satisfaction with currently available male AGA treatments and investigate the factors affecting treatment choice. The survey was carried out in five countries (Japan, South Korea, Taiwan, Mexico and Brazil) between November and December 2015 using a standard market research methodology. Questionnaires were completed by patients with male AGA or hair loss/thinning and practicing physicians who were responsible for prescribing AGA treatment. In total, 835 patients and 338 physicians completed the questionnaire. Overall, 37.6% of patients reported satisfaction with the treatments they had used. The highest patient satisfaction was reported for 5-alpha-reductase inhibitors (53.9% of patients satisfied). In all countries, physicians were more likely than patients to think that male AGA has a major impact on patient confidence (89.3% vs 70.4%, respectively). There was agreement by physicians and patients that male AGA patients who are involved in their treatment decisions have better outcomes. Patients who were satisfied with AGA treatments were more likely to have the level of involvement they desired in treatment decisions (69.1% of satisfied patients) than dissatisfied patients (56.4% of dissatisfied patients). This survey provides valuable insights into the attitudes of patients and physicians in Asia and Latin America about male AGA and its treatments. The survey identified areas of disconnect between physicians and patients regarding the impact of male AGA, treatment consultations and the importance of treatment attributes. It also highlights the need for physicians to spend sufficient time with patients discussing AGA treatment approaches.

Key words: 5-alpha reductase inhibitors, alopecia, male pattern, androgenetic alopecia, baldness, surveys and questionnaires.

INTRODUCTION

Male androgenetic alopecia (AGA), also known as male pattern hair loss, is the most common form of hair loss in men.¹ Male AGA prevalence and severity increases with age, with approximately half of Caucasian males affected at 50 years of age.² A lower prevalence of male AGA is reported in Asian men,^{3–5} however, as with Caucasian men, the prevalence increases with age.⁶

As well as genetic predisposition, conversion of the androgen, testosterone, to dihydrotestosterone (DHT) by enzyme 5-alpha reductase (type I and II) is thought to be a main cause of male AGA. Once formed, DHT binds to androgen receptors in the hair follicle, which causes shortening of the hair growth

phase and miniaturization of the hair follicle. Over time, large terminal hairs are lost and progressively replaced by thin, short vellus-like hairs, resulting in a characteristic pattern of baldness.¹

Topical minoxidil (2% and 5% solution) is the most widely used agent for the treatment of male AGA¹ and was first approved by the US Food and Drug Administration (FDA) in 1988. The temporary therapeutic effect of minoxidil is thought to be due to an increase in the duration of the anagen hair growth phase.² Oral treatment with 5-alpha-reductase inhibitors (5-ARIs) is also used in patients with male AGA; these agents work by inhibiting the conversion of testosterone to DHT. Finasteride (1 mg) is a widely used type II 5-ARI that was first approved to treat male AGA by the FDA in 1997.

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Dutasteride, a type I and II 5-ARI, has also been found to increase hair growth in male AGA patients.^{7–9} In a 6-month phase III clinical trial, dutasteride 0.5 mg was shown to be more effective than finasteride 1 mg and placebo.⁹ Dutasteride 0.5 mg was approved in South Korea in 2009⁹ and in Japan in 2015 for the treatment of male AGA. Other approaches commonly used to treat male AGA include over-the-counter (OTC) medications, herbal and oriental medicines.

Although male AGA is often considered to be a relatively minor condition, hair loss can be a considerable cause of anxiety and depression in some men.¹⁰ Patients with male AGA often experience psychological distress, negative body image perceptions and decreased quality of life.^{11–13} There is limited information available on patient and physician attitudes towards male AGA and patient satisfaction with currently available male AGA treatments. Here, we report findings from a market research survey conducted in countries across Asia-Pacific and Latin America.

The objectives of this survey were to explore patient and practicing physician attitudes towards male AGA, and key presenting symptoms of hair loss/thinning, their satisfaction with currently available male AGA treatments and investigate the factors affecting treatment choice.

METHODS

This was a multinational, qualitative survey conducted across Asia-Pacific and Latin America. The survey was conducted in five countries (Japan, South Korea, Taiwan, Mexico and Brazil) between November and December 2015.

A standard market research methodology was used and the survey consisted of two 30-min questionnaires; one for patients who had recently received treatment for male AGA or hair loss/thinning, and the second for practicing physicians responsible for prescribing male AGA treatment (dermatologists, urologists, general practitioners [GPs] and hair loss specialists). The patients were not under the care of the recruited physicians; each group was recruited independently. The questionnaires were made country-specific where possible and were completed online by both physicians and patients.

Patients were recruited by invitation in each country. Invitations were sent to members of the public who had agreed with a third party to receive invitations to complete online surveys. Patients who had previously completed similar surveys were invited in the first instance. Screening procedures, including masked questions, were used to ensure the patients met the required inclusion criteria. The key inclusion criteria for the patient survey were: male sex, aged 18 years or older; current sufferer of hair loss, hair thinning or male pattern baldness; had taken prescription or OTC medication for hair loss/thinning in the past 6 months; and had not participated in related research in the past month.

Patient data was collected by completion of a 30-min online questionnaire. The questions included treatments for male AGA or hair loss/thinning used in the past 6 months, treatment satisfaction and the number of consultations with a physician for

hair loss/thinning in the past 12 months. When asked about treatment satisfaction, patients could choose from “very satisfied”, “fairly satisfied”, “neutral”, “not very satisfied” or “not at all satisfied”.

Patients also provided the extent of their agreement with a range of statements relating to their attitudes towards the importance of hair loss, impact on self-image, involvement in treatment decisions and information provided by their physician during consultations. Patients indicated their level of agreement with the statements by selecting from “completely agree”, “somewhat agree”, “neutral”, “somewhat disagree” or “completely disagree”. Patients were also asked to provide their opinion on the importance of treatment attributes by allocating 100 points across a number of treatment characteristics.

Recruitment of physicians was carried out by invitation in each country. Invitations were sent to a pool of accredited physicians (hair loss specialists, dermatologists and GPs) who had agreed to receive online survey invitations. Only physicians with verified credentials were included in the pool. Physicians who had previously completed similar surveys were invited in the first instance. In Taiwan, physicians were screened by telephone before being invited to complete the online questionnaire. Data was collected by completion of a 30-min online questionnaire. The key inclusion criteria for the physician survey were: responsible for treatment and management of male AGA patients; caseload of at least 10 new or existing male AGA patients per month; direct patient care for 60% or more of total working time; practicing physician for 3–30 years; and awareness of 5-ARI treatments.

In the physician questionnaire, key questions included the physician's perception of patient attitudes towards the importance of hair loss and impact on self-image. Physicians were asked to provide the extent of their agreement with a range of statements relating to patient involvement with treatment decisions, patient consultations, patient treatment expectations and treatment compliance. Physicians indicated their level of agreement with the statements by selecting from the following responses: “completely agree”, “somewhat agree”, “neutral”, “somewhat disagree” and “completely disagree”. Where possible, the statements provided to the physicians were mirrored with the statements provided to patients, in order to identify any differences of opinion. Physicians also provided their opinion on the importance of treatment attributes for patients by allocating 100 points across the same treatment attributes provided to the patients.

Each physician also completed a patient case record for four of their own patients who were recently initiated on, changed from or currently receiving 5-ARI treatment. The patient case records collected demographic information, the rationale for 5-ARI treatment and also the physician's perception of how satisfied each patient was with their medication. Where possible, the questions included in the patient case records were mirrored in the patient questionnaires to identify any areas of disconnect between patient and physician perceptions of 5-ARI treatment.

Quality control methods were used to ensure that any questionnaires completed incorrectly were removed from the

dataset. Descriptive statistics were used to analyze the data collected in the questionnaires and patient case records.

RESULTS

A total of 835 patients and 338 physicians met the inclusion criteria and completed the online questionnaire. Each of the 338 physicians also completed four anonymized patient case records. The number of physicians and patients from each country is shown in Table 1.

Medications used to treat male AGA

The medications used by patients to treat male AGA or hair loss/thinning in the last 6 months are shown in Table 2. The majority of patients in all countries reported using OTC medications in the last 6 months (75.4%). The proportion of patients who had used OTC medications was highest in Mexico (83.7%), Taiwan (80.0%) and South Korea (78.0%).

Minoxidil use in the past 6 months was reported by just under one-third of patients in Taiwan (29.0%), Mexico (26.5%) and Brazil (28.6%), and approximately half of the patients in Japan (52.7%) and South Korea (46.0%). The use of 5-ARI medications in the last 6 months was reported by 39.3% of patients in Japan, 33.2% of patients in Brazil, 32.0% of patients in South Korea, 25.0% of patients in Taiwan and 18.6% of patients in Mexico (Table 2).

The percentage of patients who used traditional Chinese medicines in the past 6 months was (as expected) higher in

Asian countries (South Korea, 22.7%; Taiwan, 22.0%; Japan, 12.7%) compared with Latin America (Mexico, 4.7%; Brazil, 3.6%). The use of herbal medications was reported by over half of the patients in South Korea (56.0%) and approximately one-third of patients in Mexico (37.2%) and Brazil (33.2%). Herbal medication use was reported by fewer patients in Japan (8.0%) and Taiwan (7.0%) (Table 2).

Patient satisfaction with male AGA treatment

Overall satisfaction

Over one-third of all patients (37.6%) reported that they were "very" or "fairly" satisfied with the treatments they had used for male AGA or hair loss/thinning (Fig. 1a), with just under one-third of patients (28.0%) reporting that they were "not very" or "not at all" satisfied with the treatments they had used (Fig. 1a). Patients in Latin America were slightly more likely to report being dissatisfied with male AGA or hair loss/thinning treatments (Brazil, 32.3%; Mexico, 32.6%) compared with patients in Asia (Japan, 21.3%; South Korea, 21.3%; Taiwan, 29.0%) (Fig. 1a).

Approximately half of the patients (51.7%) had tried two or more treatment modules in the last 6 months. These patients were more likely to report treatment satisfaction (41.8%) compared with patients who had tried only one medication type (33.3%) (Fig. 1b). A higher proportion of patients who had tried one treatment type reported dissatisfaction with treatment (32.0%) compared with patients who had tried two or more treatment types (24.1%) (Fig. 1b).

Table 1. Number of completed patient and physician surveys

	Total	Country				
		Japan	South Korea	Taiwan	Mexico	Brazil
Completed patient surveys (<i>n</i>)	835	150	150	100	215	220
Completed physician surveys (<i>n</i>)	338	125	70	40	53	50

Table 2. Male AGA medications taken by patients in the past 6 months

	Total	Country				
		Japan	South Korea	Taiwan	Mexico	Brazil
Total patients (<i>n</i>)	835	150	150	100	215	220
OTC/Quasi drugs	75.4%	64.7%	78.0%	80.0%	83.7%	70.9%
Minoxidil	35.6%	52.7%	46.0%	29.0%	26.5%	28.6%
5-ARI medications	29.3%	39.3%	32.0%	25.0%	18.6%	33.2%
<i>Finasteride</i>	22.4%	36.7%	22.0%	19.0%	10.2%	26.4%
<i>Alpha-Estradiol (topical)</i>	9.2%	N/A	9.3%	12.0%	10.7%	12.7%
<i>Dutasteride</i>	4.6%	8.7%	16.7%	N/A	N/A	N/A
Herbal medication	30.7%	8.0%	56.0%	7.0%	37.2%	33.2%
Chinese medicine	11.1%	12.7%	22.7%	22.0%	4.7%	3.6%
Other						
<i>Bimatoprost</i>	7.3%	N/A	N/A	13.0%	11.2%	10.9%
<i>Pantovigar</i>	8.5%	N/A	12.0%	9.0%	7.0%	13.2%
<i>Latanoprost</i>	7.3%	N/A	10.7%	10.0%	7.0%	9.1%
<i>Spironolactone</i>	7.2%	N/A	12.7%	6.0%	7.0%	9.1%

Patients who had more consultations on average with their physician regarding hair loss were more likely to be satisfied with the treatments used. Satisfied patients had an average of 4.7 consultations with their physician in the last 12 months, whereas dissatisfied patients had an average of 3.1 consultations. Younger patients, those with mild hair loss and those who had suffered from male AGA or hair loss/thinning for a shorter time were also more likely to be satisfied with the treatments they had used. Of the patients aged between 36 and 55 years, 53.8% were satisfied with male AGA or hair loss/thinning treatments, compared with only 9.2% of patients aged over 56 years. Of the patients with mild hair loss, 38.2% reported treatment satisfaction, compared with only 27.4% of patients with severe or complete hair loss. The mean duration of hair loss was 58.2 months for satisfied patients and 90.6 months for dissatisfied patients.

Patient satisfaction by treatment type

When patients were asked to rate their satisfaction with each treatment type they had used, the highest patient satisfaction was reported for 5-ARIs (53.9% of patients reported being satisfied) (Fig. 2). This was followed by minoxidil (43.8% of patients satisfied), traditional Chinese/herbal medicines (36.3% of patients satisfied) and OTC medications (33.5% of patients satisfied) (Fig. 2).

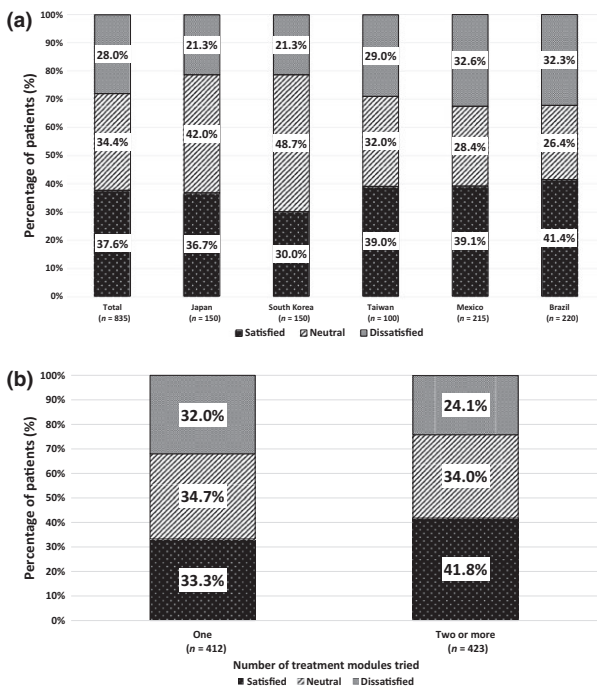


Figure 1. (a) Patient satisfaction with treatment for male androgenetic alopecia (AGA) or hair loss/hair thinning, overall and per country. (b) Patient satisfaction with treatment for male AGA or hair loss/hair thinning, by the number of treatment modules tried (all countries).

Patient and physician attitudes towards male AGA and its management

Body image perceptions

Overall, the majority of both patients (70.5%) and physicians (86.1%) agreed that men with male AGA consider the consequences of hair loss and thinning to be very serious (Fig. 3).

In Asia, there was disconnect between patient and physician opinion on the seriousness of male AGA. Physicians in Asia were more likely than patients to regard the consequences of male AGA as serious (Japan, 90.4% vs 67.3%; South Korea, 91.4% vs 74.0%; Taiwan, 92.5% vs 64.0%) (Fig. 3). In Latin America, a similar percentage of physicians and patients agreed that male AGA had serious consequences for patients (Mexico, 79.2% vs 75.3%; Brazil, 70.0% vs 68.6%) (Fig. 3). Older patients (aged >56 years) were less likely than younger patients to consider the consequences of male AGA to be serious (>56 years, 55.4%; 36–55 years, 71.3%; 18–35 years, 75.1%).

Most physicians and patients agreed that male AGA has a major impact on patient confidence. However, physicians were more likely to think this was the case, with 89.3% of physicians agreeing, compared with 70.4% patients. This pattern was observed in all countries, and was most marked in Taiwan where 100% of physicians and 63.0% of patients agreed that male AGA has a major impact on patient confidence.

Overall, less than half (43.5%) of patients thought that male AGA impacts their life on a day-to-day basis (Fig. 4a). Nearly one-third (32.3%) did not believe male AGA impacts their life on a day-to-day basis (Fig. 4a). Patients in South Korea were more likely to think male AGA impacts their life on a day-to-day basis (56.0%) compared with other countries (33.0%–46.4%) (Fig. 4a). Patients aged over 56 years were less likely to agree that male AGA affects them on a daily basis (32.7%) than patients aged 18–35 years (47.1%) and patients aged 36–55 years (43.8%). Over two-thirds (68.3%) of physicians believed that male AGA affects patients on a day-to-day basis, with only 18.9% of physicians believing there was no impact (Fig. 4b). Physicians in Japan were less likely to think male AGA has an impact on AGA patients' lives (56.0%) than physicians in other countries (69.8–82.5%) (Fig. 4b).

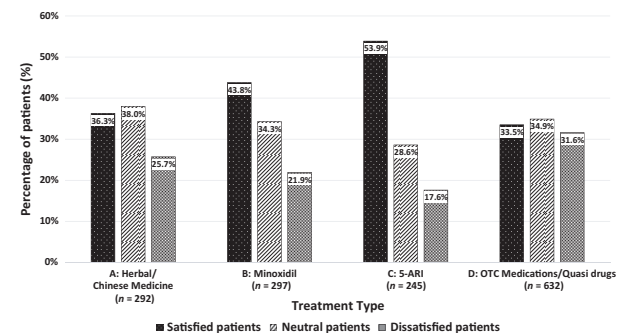


Figure 2. Overall patient satisfaction with each treatment type. 5-ARI, 5-alpha-reductase inhibitors; OTC, over-the-counter.

Perceptions of consultations

The majority of physicians (89.3%) felt that they discussed male AGA at length with their patients during consultations. A slightly higher percentage of physicians believed this was the case in Taiwan (97.5%) and Brazil (96.0%) compared with other countries (Mexico, 90.6%; Japan, 88.0%; South Korea, 81.4%). Patients were less likely to agree that physicians discussed male AGA or hair loss/thinning with them at length; overall, only 63.8% felt that this was the case. A higher percentage of patients in Latin America than Asia agreed that physicians discussed male AGA or hair loss/thinning at length (Mexico, 73.0%; Brazil, 74.1% vs Japan, 50.7%; South Korea, 52.7%; Taiwan, 58.0%).

When patients were asked whether their physician spent sufficient time with them in order to understand what they wanted to achieve with a male AGA or hair loss/thinning treatment, 57.2% patients agreed that this was the case. There were some regional differences observed, with patients in Asia less likely to feel that their physician spends sufficient time with them (Japan, 44.0%; South Korea, 46.7%; Taiwan, 47.0%) than those in Latin America (Mexico, 66.5%; Brazil, 69.1%).

A large majority (94.4%) of the physicians agreed that their patients need to understand the treatment approach before starting the therapy, with only 1.8% of physicians disagreeing (Fig. 5a). Patients were less likely than physicians to agree that they needed to understand the treatment approach fully;

approximately three-quarters of patients (74.5%) agreed they needed to understand the treatment approach before starting therapy and 5.5% patients disagreed (Fig. 5a). There were some regional differences in patient opinion, with patients in Asia less likely to agree that they need to fully understand the treatment approach before starting the medication (Japan, 64.7%; South Korea, 47.3%; Taiwan, 70.0%) than those in Latin America (Mexico, 87.9%; Brazil, 88.6%).

Over three-quarters of physicians (78.1%) felt that they spend a lot of time with their patients explaining the reasons for prescribing a male AGA treatment (Fig. 5b). In contrast, only approximately half (54.4%) of patients felt that physicians spent a lot of time explaining their treatment decision (Fig. 5b).

Patient involvement with treatment decisions

There was general agreement by physicians and patients in most countries that male AGA patients who are involved in their treatment decisions have better outcomes (South Korea, 55.7% vs 64.7%; Taiwan, 80.0% vs 72.0%; Mexico, 83.0% vs 82.8%; Brazil, 86.0% vs 78.6%) (Fig. 6). In Japan, however, a smaller proportion of patients than physicians (46.0% vs 76.8%) agreed this statement was true (Fig. 6).

Almost two-thirds of patients in all countries reported that they had the level of involvement that they wanted in treatment decisions (61.7%) (Table 3). Approximately one-third of patients in South Korea (30.0%), Mexico (33.5%) and Brazil

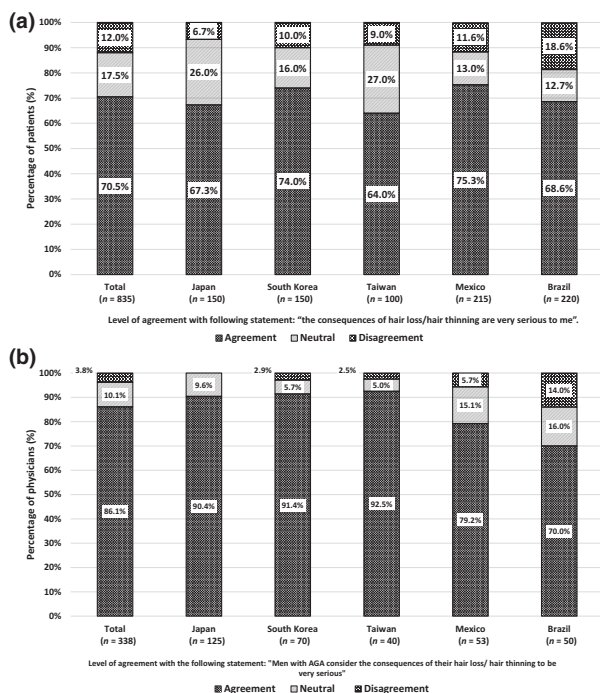


Figure 3. (a) Patient perceptions of the seriousness of male androgenetic alopecia (AGA) or hair loss/hair thinning. (b) Physician perceptions of the seriousness of male AGA.

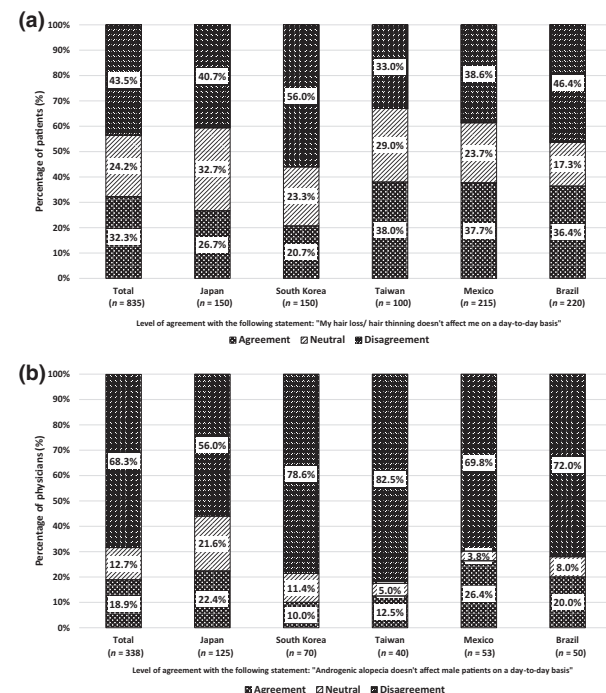


Figure 4. (a) Patient perceptions of the impact of male androgenetic alopecia (AGA) or hair loss/hair thinning on a day-to-day basis. (b) Physician perceptions of the impact of male AGA or hair loss/thinning on a day-to-day basis.

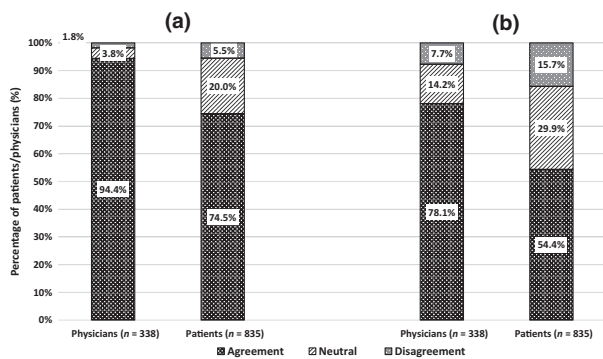


Figure 5. Patient and physician attitudes towards understanding treatment approaches. **(a) Understanding the treatment approach.** Level of agreement with the following statements: “My patient needs to fully understand the treatment approach before I will start therapy” (physicians); “I need to fully understand the treatment approach before I start taking that medication” (patients). **(b) Time spent explaining the treatment approach.** Level of agreement with the following statements: “I spend a lot of time explaining the reasons why I recommend/prescribe the AGA products to my patients” (physicians); “The HCP spends a lot of time explaining the reasons why they recommend/prescribe medication for hair loss/hair thinning” (patients). AGA, androgenetic alopecia; HCP, health-care professional.

(31.8%) reported that they wanted more involvement in treatment decisions. The proportion of patients wanting more involvement in treatment decisions was lower in Japan (9.3%) and Taiwan (15.0%).

Patients who were satisfied with male AGA or hair loss/thinning treatments were more likely to have the level of involvement they desired in treatment decisions (69.1% of satisfied patients) compared with dissatisfied patients (56.4% of dissatisfied patients).

Perceptions of treatment expectations

Over half of physicians (60.4%) felt that their male AGA patients were more demanding than other patient groups; the highest proportion of physicians with this belief was in Mexico (83.0%). In addition, over half of physicians (55.0%) felt that patients had unrealistic expectations in terms of male AGA treatment success.

Approximately half of physicians (51.7%) believed that if patients missed a dose occasionally it would not make a big difference to the outcome of treatment. The proportion of physicians who thought this was highest in South Korea (68.6%) and lowest in Japan (39.2%) and Mexico (45.5%). When patients were asked about missing a dose of male AGA or hair loss/thinning treatment, approximately one-third (34.6%) felt that this would not affect the treatment outcome. A higher percentage of patients in Mexico agreed with this statement (43.7%) than in Asian countries (Japan, 30.7%; South Korea, 26.0%; and Taiwan, 31.0%).

Treatment decisions

Importance of treatment attributes

Overall, the most important treatment attribute according to physicians was hair restoration (increased width and volume of hair; mean score, 17/100) (Fig. 7a). In Japan, patient satisfaction and hair restoration were considered the most important treatment attributes according to physicians (mean score, 18/100 each). In Taiwan, physicians considered the delay in progression of hair loss and hair restoration to be most important (mean score, 16/100 each) (Fig. 7a).

Other important treatment attributes for physicians in all countries were the promotion of frontal and vertex hair growth (mean score, 13/100) and the side-effect profile (mean score, 10/100). Physicians assigned least importance to the treatment’s onset of action (mean score, 8/100), the cost of the medication (mean score, 8/100), mode of treatment administration (mean score, 5/100), frequency of administration (mean score, 5/100) and decreased seborrhea (mean score, 5/100) (Fig. 7a).

Among patients, those in Asia considered hair restoration to be the most important treatment attribute (Japan mean score, 19/100; South Korea mean score, 16/100; Taiwan mean score, 16/100) (Fig. 7b). In Mexico, patients considered the treatment onset of action to be most important (mean score, 16/100) whereas in Brazil, hair restoration, onset of action and treatment cost were all considered to be the most important treatment attribute (mean score, 13/100 each) (Fig. 7b).

The onset of action and cost of the treatment were considered to be fairly important attributes by patients across all regions (mean score, 13/100). The promotion of frontal and vertex hair growth and the delay in progression of hair loss were assigned similar importance by patients across all regions (mean score, 13/100 and 12/100, respectively) (Fig. 7b).

Patients considered potential treatment side-effects (mean score, 9/100) to be slightly less important than the promotion of hair growth (mean score, 13/100) and delay in progression of hair loss (mean score, 12/100). Potential side-effects (mean score, 9/100) were considered by patients to be slightly more important than decreased seborrhea (mean score, 8/100), mode of treatment administration (mean score, 8/100) and frequency of treatment administration (mean score, 7/100 points) (Fig. 7b).

Rationale for initiating and changing from 5-ARI treatment

In the patient case records, physicians were asked to report their rationale for initiating patients on 5-ARI treatment. Overall, the efficacy profile was the most commonly reported reason (68.6% of cases), followed by patient request (32.7%) and mode of administration (27.8% of cases).

Some regional variations were noted; physicians were more likely to report the efficacy profile as the reason for initiating 5-ARI treatment in Taiwan (93.6%) and South Korea (78.3%) than in other countries (Mexico, 62.1%; Brazil, 64.8%; Japan, 59.9%). The proportion of cases in which patient request was the reason for initiating 5-ARI treatment was higher in Japan (47.0%) than in other countries (21.4–25.1%). The mode of

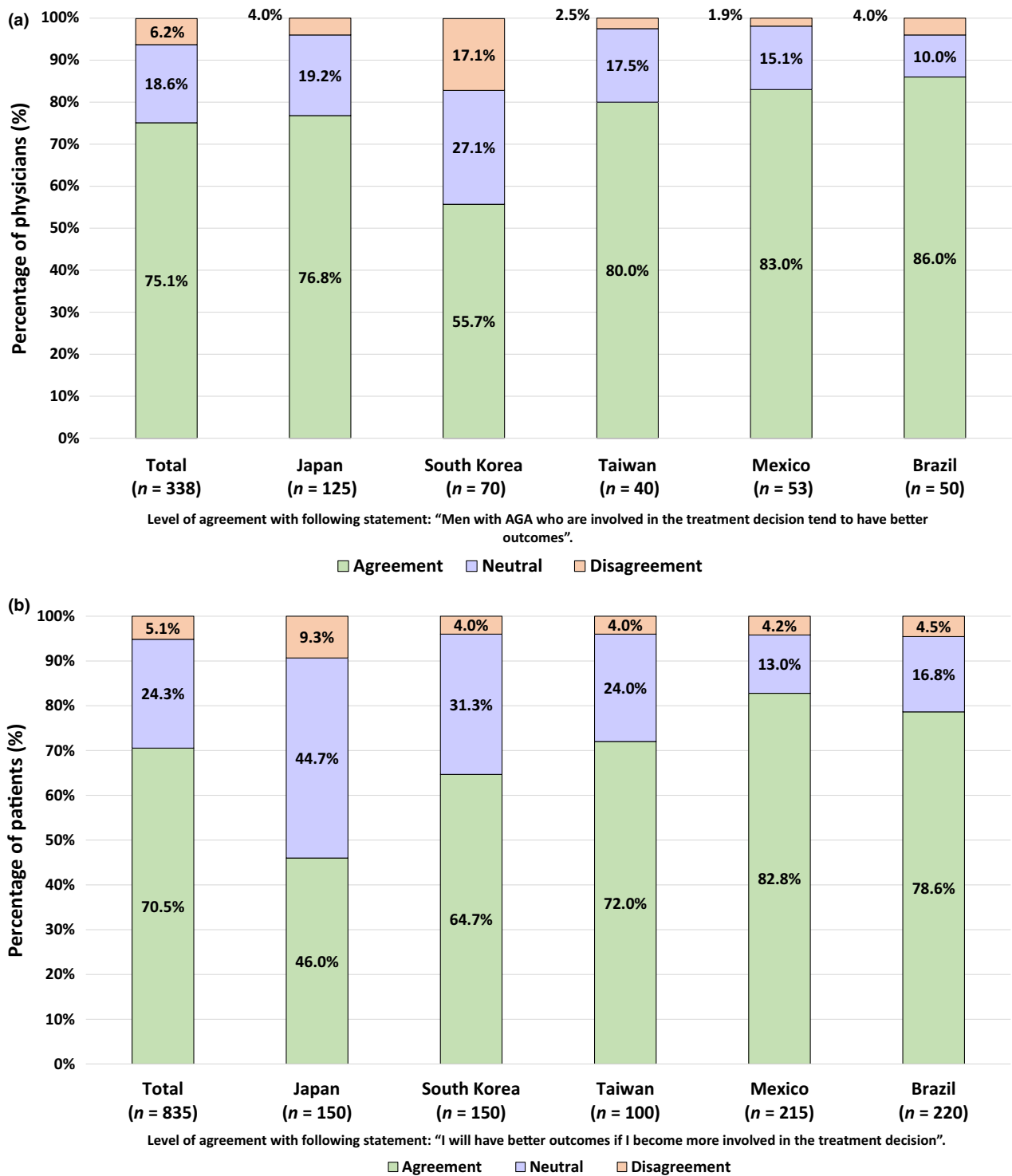


Figure 6. (a) Physician perceptions of patient involvement in treatment decisions. (b) Patient perceptions of involvement in treatment decisions. AGA, androgenetic alopecia.

Table 3. Level of patient involvement in treatment decisions

	Total	Country				
		Japan	South Korea	Taiwan	Mexico	Brazil
Total patients (<i>n</i>)	885	150	150	100	215	220
Involvement exactly what they wanted, <i>n</i> (%)	515 (61.7)	106 (70.7)	87 (58.0)	66 (66.0)	124 (57.7)	132 (60)
More involvement wanted, <i>n</i> (%)	216 (26.9)	14 (9.3)	45 (30.0)	15 (15.0)	72 (33.5)	70 (31.8)
Less involvement wanted, <i>n</i> (%)	96 (11.5)	25 (16.7)	17 (11.3)	19 (19.0)	18 (8.4)	17 (7.7)
Do not know, <i>n</i> (%)	8 (1.0)	5 (3.3)	1 (0.7)	0 (0)	1 (0.5)	1 (0.5)

administration was reported as a reason for initiating 5-ARI treatment more often by physicians in Brazil (43.0%) than in other countries (20.0–29.3%).

When patients on 5-ARI treatment were asked to recall the reason given by their physician to begin this treatment, there was general agreement with the reasons reported by the physicians in the patient case records. The efficacy profile was recalled by patients as the most commonly provided reason for starting 5-ARI treatment (65.9%), although this was more likely to be recalled by patients in Brazil (76.5%) than in other countries (Japan, 57.7%; South Korea, 60.9%; Taiwan, 70.8%; Mexico, 61.5%).

When physicians were asked about their rationale for changing patients from 5-ARI treatment to a different treatment type in the patient case records, the most commonly reported reasons were patient request and safety profile (35.7% each). Financial affordability and efficacy profile were reported as the reason in 27.8% and 23.5% of cases, respectively.

Some regional variations were observed; physicians in Japan were less likely to report the safety profile as the reason for changing from 5-ARI treatment (15.8%) than in other countries (29.4–45.0%). Specific patient request was reported less frequently in Taiwan (5.0%) than in other countries (28.9–61.9%), and financial affordability was reported less in Brazil (4.8%) than in other countries (17.6–45.0%). The efficacy profile was reported more commonly in Japan as the reason for changing from 5-ARI treatment (57.9%) than in other countries (9.5–21.1%).

DISCUSSION

This is the first comprehensive survey carried out to explore physician and patient perceptions of male AGA, its management and treatments. Overall, patient satisfaction with the currently available male AGA treatments was suboptimal, with almost one-third of patients reporting feeling dissatisfied. This suggests that there is an unmet need for effective male AGA treatments. Patients in the Latin American region were more likely to report treatment dissatisfaction than patients in Asia. The majority of physicians in most countries believed that their patients were more demanding than other patient groups and had unrealistic expectations when it came to male AGA treatment success, which may contribute to the high levels of patient dissatisfaction in Latin America.

Patients who had tried two or more treatment modules were more likely to report being satisfied with the currently available AGA treatments than patients who had tried only one treatment

module. Patients were most likely to report satisfaction with 5-ARI treatments than other treatment types such as OTC and herbal medications.

Overall, patients and physicians agreed that male AGA had serious consequences for sufferers, affecting confidence and impacting patients on a day-to-day basis. Furthermore, younger patients were more likely than older patients to believe that male AGA impacts their life, reduces their confidence and has serious consequences. These findings are in alignment with a previous study, which found that patients with male AGA have a significantly reduced quality of life, especially in younger patients.¹³ Although patients and physicians generally agreed that male AGA affects patient body image perceptions, there was a slight disconnect between physician and patient opinion; physicians were more likely than patients to think male AGA has serious consequences and affects patient confidence. Similarly, physicians were more likely than patients to believe that male AGA affects patients on a daily basis.

Patients in Asia were less likely to feel that their physicians spend enough time discussing male AGA or hair loss/thinning, its management and what they wanted to achieve from treatment than Latin American patients. Conversely, a high proportion of physicians in Asia felt they discussed male AGA at length with their patients during consultations.

Despite a large majority (94.4%) of physicians believing that patients need to understand the treatment approach before starting the therapy, fewer (78.1%) reported spending a lot of time explaining the reasons for prescribing a treatment to patients. Approximately three-quarters of patients believed they need to understand the treatment approach fully; however, a smaller proportion (54.4%) felt their physician spent a lot of time explaining the treatment approach. These findings suggest that both groups recognize the importance of patients understanding the treatment approach, and that this is an area that could be improved further.

Both patients and physicians agreed that patient involvement in treatment decisions improves treatment outcome. Furthermore, patients who were satisfied with treatment were more likely to have the desired level of involvement in their treatment decisions than dissatisfied patients. In Latin America, where treatment dissatisfaction was highest, approximately one-third of patients wanted more involvement in treatment decisions. Engaging patients in treatment decisions may result in increased patient satisfaction. Interestingly, very few patients in Japan and Taiwan wanted more involvement with their treatment decisions.

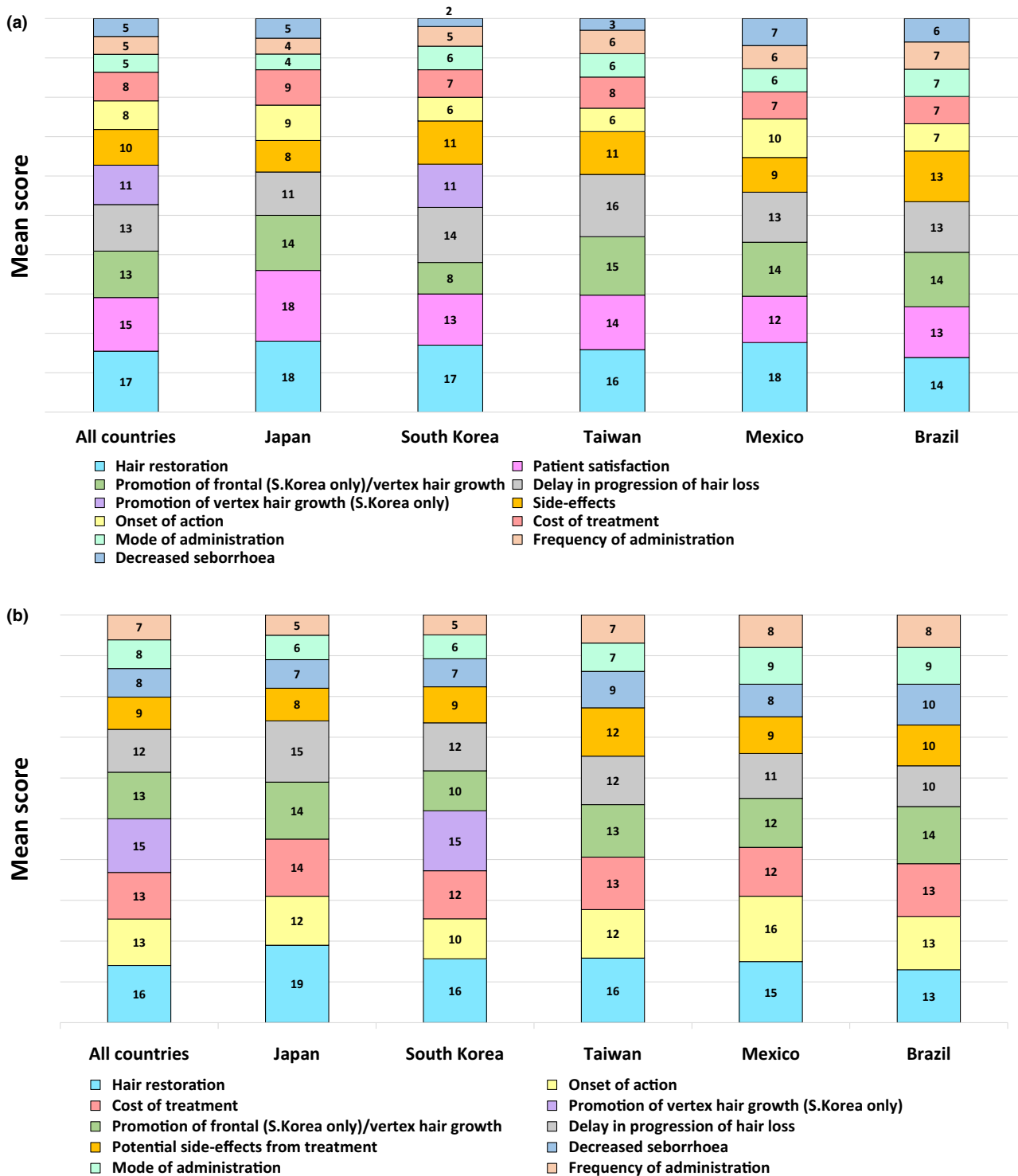


Figure 7. (a) Physician assigned importance of treatment attributes. (b) Patient assigned importance of treatment attributes.

Patient compliance with AGA medication is important due to the chronic and progressive nature of male AGA. However, approximately half of the physicians (51.7%) and one-third of

patients (34.6%) believed that missing a dose of male AGA treatment occasionally would not impact the treatment outcome. Male AGA medication should be taken on a continuous

basis, as the interruption of therapy has been shown to return hair loss to pretreatment status.¹⁴ These results show that both physicians and patients should be educated on the importance of continuing male AGA treatment without interruptions.

Physician and patient perceptions on the importance of treatment attributes were generally aligned, with both agreeing that the most important attribute was hair restoration. Physicians and patients also had similar perceptions on the importance of treatment side-effects. The potential treatment side-effects were considered more important than the mode and frequency of administration and reduction of seborrhea by both patients and physicians. Some differences were observed between the groups, with patients assigning more importance than physicians to the onset of action and cost of treatment. This highlights the importance for a discussion between physicians and their patients regarding treatment characteristics, treatment expectations, and the balance between treatment efficacy and potential side-effects. This would allow an appropriate treatment decision to be made for the individual patient.

Physicians were most likely to report initiating 5-ARI treatment due to the efficacy profile of these medications. Patient request and mode of administration were also commonly reported reasons. The efficacy profile was also the most commonly recalled reason by patients for starting 5-ARI treatment.

As with all market research using questionnaires, potential limitations of this research include a possible recall bias by both physicians and patients. In addition, patients suffering from hair loss or thinning, without a diagnosis of male AGA from the patient's health-care provider, might have been included in the survey. However, steps were taken to ensure that the patients included were true hair loss sufferers, including screening procedures and masked questions. Patients were shown images or descriptive text of typical male baldness stages (based on Norwood–Hamilton AGA classification), therefore relating patients' condition to male AGA. When patients were asked to select the pattern of hair loss that represented their current condition, the majority selected moderate (further loss/thinning at front of hairline or crown) or severe (significant or complete hair loss/thinning around front of hairline or crown). Fewer than one-third of patients selected minor recession/thinning of hair. This suggests that most of the patients in the survey were suffering from male AGA. Additionally, all patients were receiving at least one medication for hair loss and 48.5% of patients were receiving at least one treatment recommended by international guidelines^{15,16} for male AGA (minoxidil, 5-ARI).

The objective of the survey was to understand the impact of hair loss on patient perceptions and satisfaction with available treatments. As hair loss and hair thinning are key manifestations of AGA, the perceptions and attitudes of hair loss patients without a physician-confirmed diagnosis of AGA still provide valuable insights into this condition. Further research, in which all patients have a confirmed diagnosis of AGA, is needed to confirm the findings from this survey. The inclusion of appropriate physicians in the survey was confirmed by inviting only physicians with verified credentials and by the use of screening procedures.

Furthermore, the severity of patient male AGA was not confirmed by a physician in this survey and so further research may be needed to investigate any potential impact of hair loss severity on attitudes towards AGA and its treatment. However, the majority of patients indicated that they were suffering from moderate to severe male pattern hair loss or hair loss/thinning.

A further possible limitation is that although the survey was carried out in two regions, patient race was not recorded. A number of studies have reported racial differences in the incidence, progression and pattern of hair loss in male AGA.^{3–6,17} As patient race was not recorded in the present survey, any racial differences in the results could not be distinguished and the findings may not be transferrable to patients from other regions. Further research is required to investigate the impact that patient race has on patient perceptions and attitudes towards AGA. Another potential limitation is that robust statistical analyses were not carried out on any country differences or differences in physician and patient responses.

This survey provides valuable insights into the attitudes and perceptions of patients and physicians in Asia and Latin America about male AGA and its treatments. It also provides an indication of patient satisfaction with the currently available treatments for male AGA in Asia and Latin America. Patient satisfaction was fairly low in both regions, with almost one-third of patients reporting dissatisfaction with the currently available male AGA treatments they had used. Patient satisfaction was higher for treatments such as minoxidil and 5-ARI that are currently included in the international Asian consensus committee guideline¹⁶ than for traditional Chinese/herbal medicines and OTC treatments.

There are areas of disconnect between physicians and patients regarding the impact of male AGA, treatment consultations and the importance of treatment attributes when selecting a medication. The survey also highlights the need for physicians to spend sufficient time with patients discussing male AGA, treatment approaches and what patients wish to get out of treatment. Patient involvement in treatment decisions is also important and may be linked to patient satisfaction with treatment.

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