

A survey of Japanese physician preference for attire: what to wear and why

Yuki Yoshikawa¹, Takaharu Matsuhisa¹, Noriyuki Takahashi², Juichi Sato¹ and Nobutaro Ban³

¹*Department of General Medicine/Family & Community Medicine, Nagoya University Graduate School of Medicine, Nagoya, Japan*

²*Department of Education for Community-Oriented Medicine, Nagoya University Graduate School of Medicine, Nagoya, Japan*

³*Medical Education Center, Aichi Medical University School of Medicine, Nagakute, Japan*

ABSTRACT

Many studies have examined the impression made on patients by physicians' attire. Regardless of practice location, many patients express most confidence in physicians who wear white coats. The number of physicians in Japan who choose not to wear white coats in practice has been increasing, particularly in primary care settings. However, very few studies have examined physician preference for attire. To clarify Japanese general practitioners' preference for attire by practice setting, we conducted a survey of physician preferences and reasons for attire selection. Subjects were 794 general practitioners certified by the Japan Primary Care Association and recruited from a mailing list. We conducted a web-based questionnaire survey. Physicians were asked to choose one of four different dress styles (semi-formal, white coat, scrubs, and casual) for different practice settings and state the reasons for selection. The response rate was 19.3% (n = 153; men 112). Most subjects chose white coats as usual attire for hospital practice (52%), mainly because of custom and professionalism. In contrast, most subjects chose non-white coats for clinics (59%) and home care (hospital-provided, 58%; clinic-provided, 71%). More subjects chose casual dress for clinic and home care practice, mainly to appear empathic. Most subjects chose white coats as the most appropriate hospital attire (54%), mainly because of patient perceptions of this attire being professional. Most subjects considered non-white coat attire more appropriate for clinic and home care practice. The findings indicate that general practitioners choose their clothes depending on practice location.

Keywords: patient–doctor relationship, general practice, primary care, quality of care, physician attire

Abbreviations:

GP: general practitioner

JPCA: Japan Primary Care Association

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Corresponding Author: Yuki Yoshikawa, MD

Department of General Medicine/Family & Community Medicine, Nagoya University Graduate School of Medicine, 65 Tsurumai-cho, Showa-ku, Nagoya 466-8560, Japan

Tel: +81-52-744-2951, Fax: +81-52-744-2951, E-mail: Yoshikawa.yuki@med.nagoya-u.ac.jp

BACKGROUND

Physician attire is a key component of patient confidence in physicians during consultations¹ and many studies have been conducted on the attire of physicians.¹⁻²³ Conflicting findings have been reported about the extent to which the white coat is a traditional symbol for physicians. Patients consider physicians who wear white coats to be more hygienic, professional, authoritative, and scientific.² Patient preference for physicians to wear white coats has been reported in various countries. Conversely, some studies show that white coats increase patients' tension,³ and cause hypertension⁴ and bacterial transmission.⁵

Patient preference for physician attire is influenced by age, locale, setting, and context of care.⁶ Many studies on physician attire have been conducted in hospital settings⁶⁻⁸; there are very few studies in clinics^{9,10} and none in home care settings. Reports from several countries suggest that patients prefer primary care physicians to wear white coats.¹⁰⁻¹² However, one study found that white coats are no longer considered a powerful symbol for most patients who visit general practitioners (GPs).¹³

One questionnaire survey from Japan showed that many patients consider doctors who wear white coats to be more trustworthy.¹⁴ However, in recent years, the number of doctors practicing without wearing white coats has been increasing in Japan, particularly in primary care settings.¹⁵ Very few studies on physician medical attire have examined the reason for attire selection from the doctors' point of view.¹⁶

In Japan, primary care physicians form most of the physician workforce, not only at clinics but also in hospitals and home care settings. The Japan Primary Care Association (JPCA) certification system provides a training program that involves 3–4 years of hospital, clinic, and home care practice. Trainees who pass the certification examination after finishing this training program are recognized as family medicine specialists (GPs) by the JPCA. Therefore, GPs in Japan have experience in hospitals, clinics, and home care settings. A study conducted by Toi et al showed that of JPCA-certified GPs who had GP certification, 48.3% worked in hospitals, 49% in clinics, and 68% were involved in home care.¹⁷

The objective of this study was to clarify Japanese GPs' reasons for attire selection in different practice locations (hospitals, clinics, home care settings).

METHODS

Subjects and intervention

Subjects were 794 GPs certified by JPCA (men: n = 580, 73%; women: n = 214, 27%) and registered on the JPCA mailing list (voluntary registration). We conducted a web-based questionnaire survey from June 13–31, 2019. This study was approved by the ethical committee of Nagoya University (approval number 2019-0057). Informed consent was obtained from all participants in the study via a website.

Questionnaire development

In Japan, most physicians who provide home care work either for hospitals or clinics. Therefore respondents were asked to choose from four practice settings: hospitals, clinics, home care (hospital provision), and home care (clinic provision).

Following previous studies,^{14,18} we divided physician attire into four types: semi-formal, white coat, scrubs, and casual (Fig. 1). We used a picture of the attire in which only the clothes were changed; the same background, pose, and angle were used. We hypothesized that many GPs

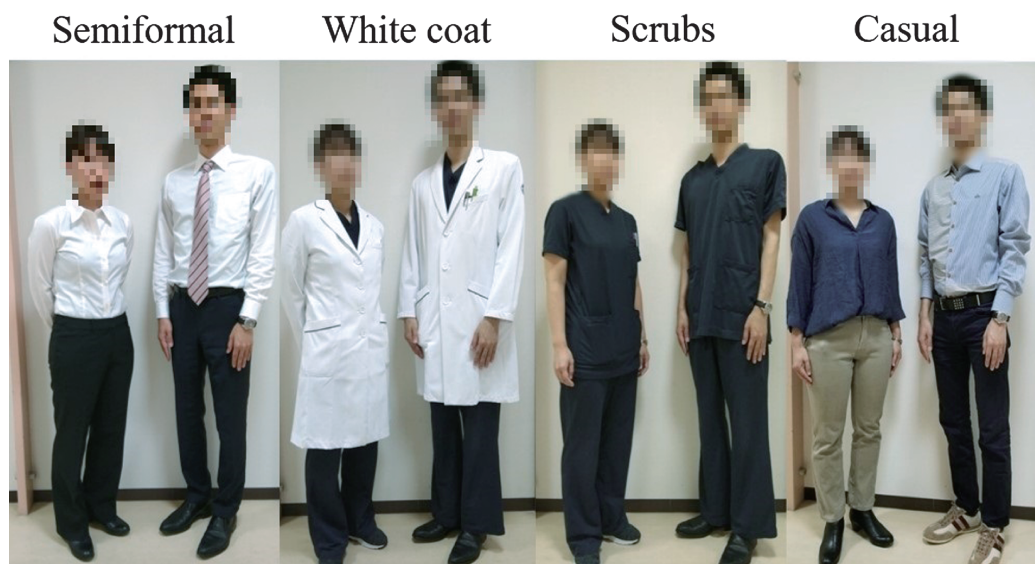


Fig. 1 Survey photographs of model male and female physicians in various attire

may not wear white coats at medical facilities other than hospitals. We predicted that some GPs would choose their attire according to hospital rules. To clarify the difference between ideal and actual attire, we surveyed both actual and ideal attire selection. GPs were asked to choose their usual attire from the picture and then asked to select the reason (workplace rules, custom, denotes greater professionalism, more empathic, more hygienic, affords greater mobility, and other reasons). Similarly, GPs were asked to choose the attire they thought was most appropriate for each practice setting from the picture and the reasons for their choice (professionalism, empathic, hygiene, mobility, and other). Respondents were anonymous and surveyed for age, gender, and the year they had obtained their doctors' license.

Statistical analysis

Tests for independence and residual analysis of $1 \times m$ contingency tables were performed using Pearson's chi-square test. All analyses were conducted using IBM SPSS Statistics 26 (IBM Corp., Armonk, NY, USA).

RESULTS

GP background

Of the registered GPs on the mailing list, 19.3% (153 GPs; 112 men, 73%; 41 women, 26.8%) completed the questionnaire. Table 1 shows GP demographic data and practice location (including duplications). There were 112 hospital workers, 126 clinic workers, 62 home care (hospital provision) workers, and 111 home care (clinic provision) workers.

Usual attire at each practice setting and reasons for selection

In hospitals, GPs chose white coats (52%) and scrubs (42%) significantly more ($p < 0.01$, $p < 0.05$) and chose casual attire (3%) significantly less than in other settings ($p < 0.01$). There was

Table 1 Characteristics of general practitioners (GPs)

		All (n = 153)	Hospital	Clinic	Home care (hospital)	Home care (clinic)
Gender of GPs	Male	112	83	89	43	78
	Female	41	29	37	19	33
Age	30–39	91	72	77	43	68
	40–49	50	31	41	16	37
	50–59	9	7	5	2	4
	60–69	1	1	1	0	0
	≥70	2	1	2	1	2
Years after graduation	≤ 5	0	0	0	0	0
	6–10	55	48	45	28	39
	11–15	53	36	44	20	40
	16–20	20	11	18	6	17
	≥21	13	10	10	5	6
	Unanswered	7	5	5	2	6
Inappropriate answer		5	2	4	1	3

GP: general practitioner

a greater tendency for more casual attire to be worn in clinics (25%) than in hospitals. Scrubs (25%) were chosen significantly less in clinics than in other settings ($p < 0.05$). In home care settings (clinic provision), GPs chose casual attire (31%) significantly more ($p < 0.01$) and white coats (29%) significantly less ($p < 0.01$). Most GPs wore white coats in hospitals, although more than half did not wear white coats in clinics and home care settings. A comparison of GP attire in home care settings showed that those working in hospital-provision home care wore white coats (42%) more often than those working in clinic-provision home care (29%) (Fig. 2). There were few choices of semi-formal attire, and similar results were obtained from an analysis that excluded semi-formal responses.

Regarding reasons for attire selection (Table 2), analyses were performed for three attire groups (white coat, scrubs, and casual). Semi-formal attire was excluded because the number of semi-formal responses was small. The following reasons were cited significantly more for white coat selection: custom ($p < 0.01$), professionalism ($p < 0.01$), and hygiene ($p < 0.01$). Mobility was cited significantly more for selection of scrubs ($p < 0.01$). Empathy as a reason for selection was cited significantly more for casual attire ($p < 0.01$). Similar results were obtained when semi-formal attire was included in the analysis. Analysis of attire selection reasons by practice setting showed the same pattern (Fig. 3).

Attire considered appropriate for each practice setting and reasons for selection

White coats (54%) were selected significantly more often ($p < 0.01$) and casual attire (3%) significantly less ($p < 0.01$) as appropriate hospital attire. White coats (33%) and casual attire (26%) tended to be selected as more appropriate in clinics, but the difference was not significant. Casual attire (31%, 37%) was selected significantly more ($p < 0.05$, $p < 0.01$) and white coats (23%, 18%) significantly less ($p < 0.01$) as appropriate attire in home care settings (hospital and clinic provision, respectively) (Fig. 4).

Regarding the reasons for appropriate attire selection (Table 3), hygiene was cited signifi-

Physician preference for attire in Japan

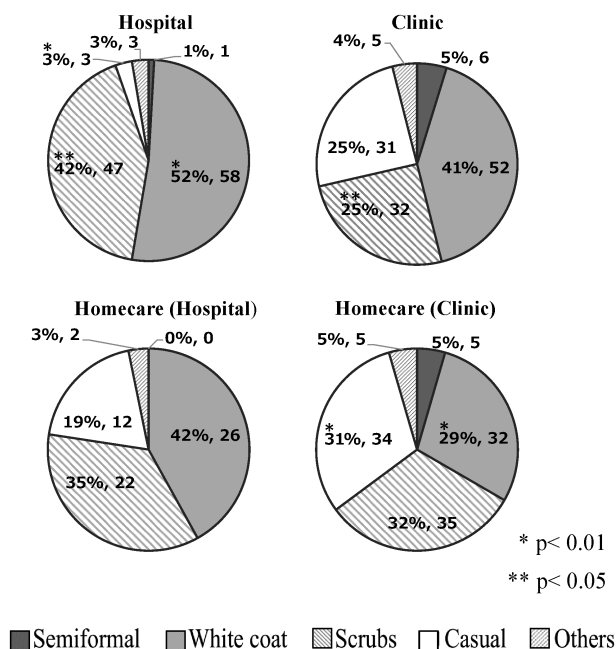


Fig. 2 Usual attire in each practice setting

Table 2 General practitioners' reasons for actual selection of usual attire

	White coat	p value	Scrubs	p value	Casual	p value
Why did you select this attire?						
All, N (%) (n = 384)	168 (43.8)		136 (35.4)		80 (20.8)	
Workplace rules (n = 49)	24 (14.3)		15 (11.0)		10 (12.5)	
Custom (n = 76)	47 (28.0)	p < 0.01	16 (11.8)		13 (16.3)	
Professionalism (n = 37)	35 (20.8)	p < 0.01	0 (0)		2 (2.5)	
More empathic (n = 46)	1 (0.6)		9 (6.6)		36 (45.0)	p < 0.01
Hygiene (n = 46)	39 (23.2)	p < 0.01	6 (4.4)		1 (1.3)	
Mobility (n = 109)	8 (4.8)		87 (64.0)	p < 0.01	14 (17.5)	
Others (n = 21)	14 (8.3)	p < 0.05	3 (2.2)		4 (5.0)	

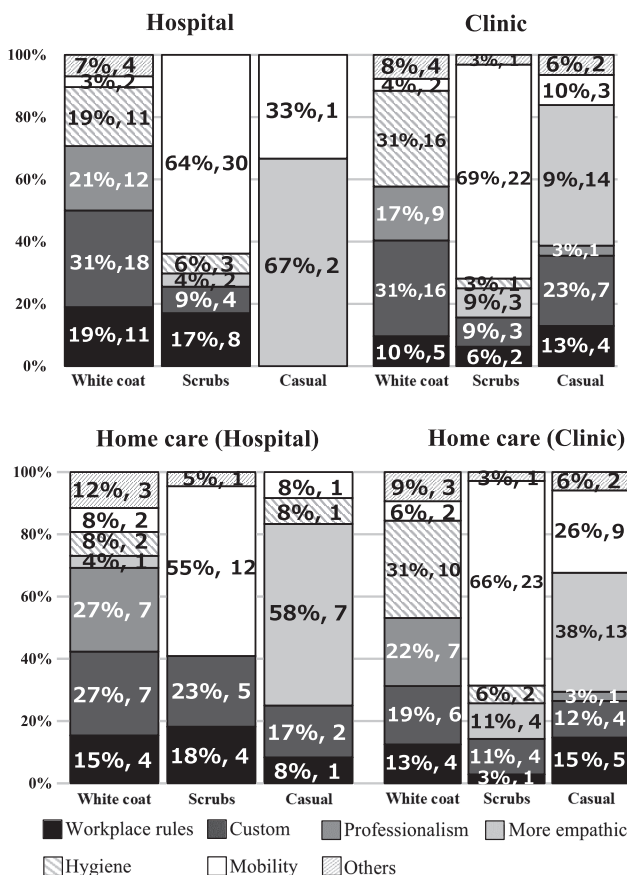


Fig. 3 GP reasons for usual attire selection in each setting

cantly more for semi-formal attire selection ($p < 0.05$). Professionalism and hygiene were cited significantly more for white coat selection ($p < 0.01$). Mobility was cited significantly more for choice of scrubs, ($p < 0.01$) and empathic impression was cited significantly more for choice of casual attire ($p < 0.01$). The reasons for choosing attire at each practice setting were similar to the overall reasons for choosing attire (Fig. 5).

Changes in attire selected for each practice setting and reasons

Most GPs considered it desirable to wear white coats in hospitals. However, only one-fourth of GPs considered white coats appropriate attire in non-hospital settings (Fig. 4). We analyzed whether GPs who chose white coats as appropriate for hospitals changed their preference in non-hospital settings (Fig. 6). In the clinic setting, there was a tendency to select white coats. In home care settings, the selection of casual attire increased. In home care settings (clinic provision), casual dress tended to be chosen more than white coats. More than half of the GPs who chose casual attire cited empathic impression as a reason.

Physician preference for attire in Japan

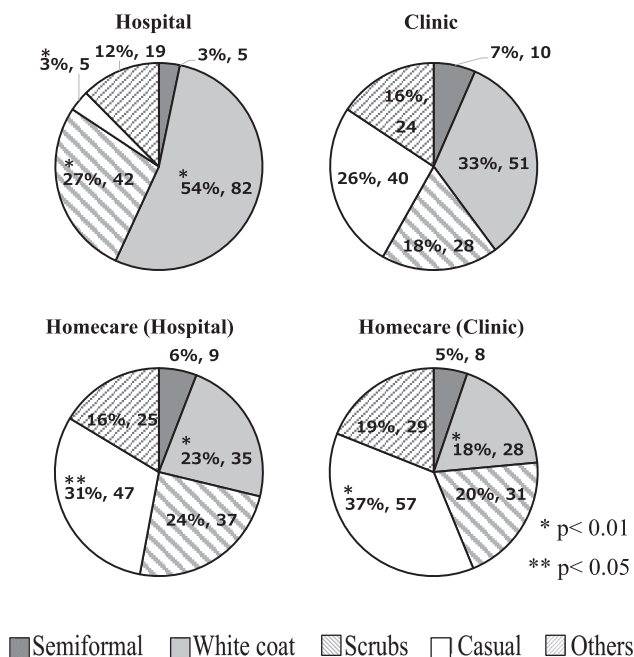


Fig. 4 Appropriate attire in each setting

Table 3 General practitioners' reasons for ideally appropriate attire selection

	Semi-formal	p value	White coat	p value	Scrubs	p value	Casual	p value
Why did you select this attire?								
All, N (%) (n = 515)	32 (6.2)		196 (38.1)		138 (26.8)		149 (30.0)	
Professionalism (n = 135)	8 (25.0)		111 (56.6)	p < 0.01	14 (10.1)		2 (1.3)	
More empathic (n = 130)	8 (25.0)		4 (2.0)		20 (14.5)		98 (65.8)	p < 0.01
Hygiene (n = 73)	9 (28.1)	p < 0.05	49 (25.0)	p < 0.01	14 (10.1)		1 (0.7)	
Mobility (n = 122)	1 (3.1)		8 (4.1)		82 (59.4)	p < 0.01	31 (20.8)	
Others (n = 55)	6 (18.8)		24 (12.2)		8 (5.8)		17 (11.4)	

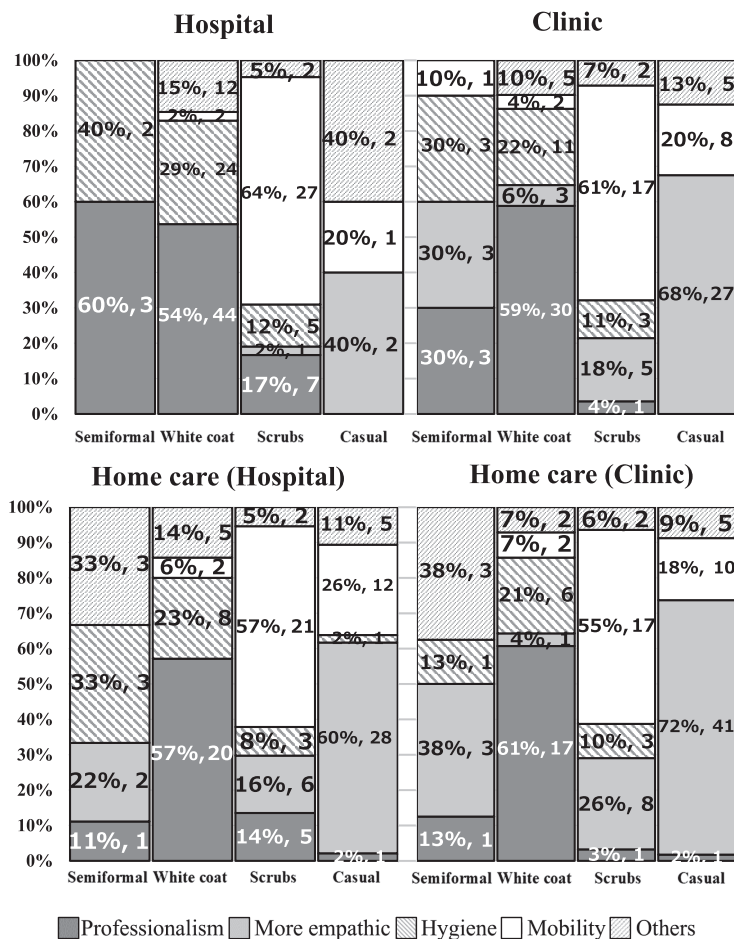


Fig. 5 GP reasons for appropriate attire selection in different settings

DISCUSSION

In this study, we clarified for the first time the types of attire Japanese GPs wear in different practice settings. Japanese GPs change their clothes preference depending on the practice setting. There are many studies on physician attire from the patients’ perspective, but very few on physician attire from the doctors’ point of view.¹⁶ We believe that this study is valuable in clarifying the gap between patient and physician thinking about attire.

Another strength of this study is that we demonstrated how attire preference differed depending on the practice location, including home care settings. Previous surveys on preferences in physician attire from the patients’ perspective have been conducted mostly in hospital settings^{3,6,7,19,20}; a few have focused on clinics^{10,12} but there are no studies in home care settings.

In many countries, patients prefer physicians to wear white coats in both hospitals and clinics. To our knowledge, only one study has examined both patient and physician attire preference.¹⁶ This Malaysian study showed that although patients prefer white coats, physicians prefer to wear semi-formal attire in wards and formal attire in clinics. This indicates that physicians prefer

Physician preference for attire in Japan

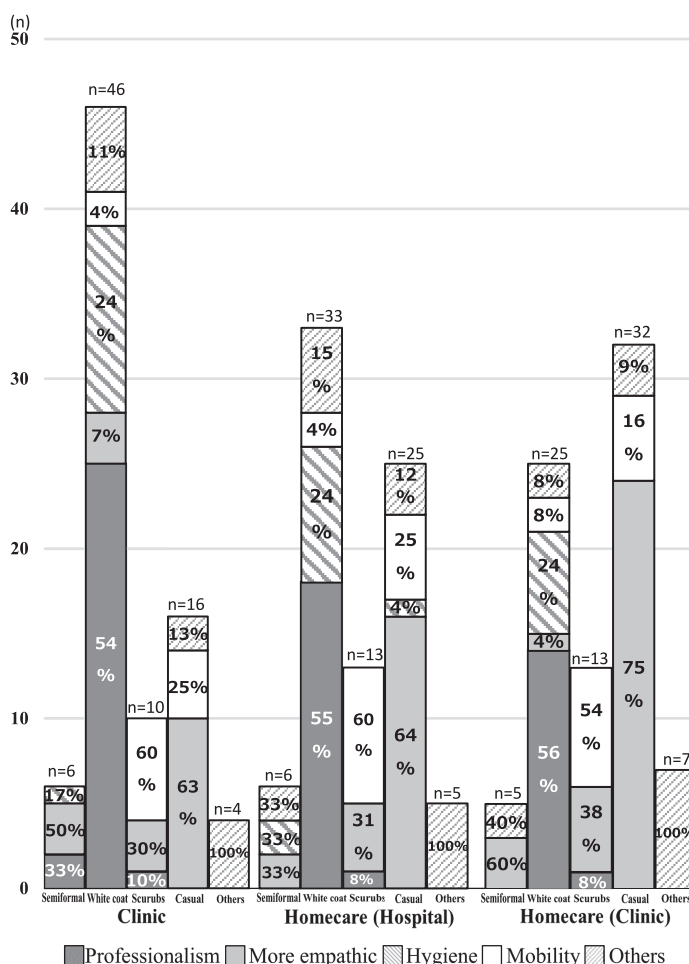


Fig. 6 Changes in attire preference for GPs who chose white coats as appropriate hospital attire

not to wear white coats.¹⁶ In Japan, there are only a few reports on physician attire preference, even from the patients' perspective. These studies indicate that white coats are preferred in all cases.^{3,18,21} However, the wearing of white coats did not affect satisfaction with physician consultations for most Japanese patients in a university clinic.³ The present study indicates that most GPs did not wear white coats in clinics and home care settings. Additionally, many GPs did not consider white coats appropriate for clinics and home care. This suggests that Japanese GPs may not always consider a white coat to be the best attire, and change their clothes depending on the practice location. As we were concerned about age bias, we categorized GPs by age (<40 years old vs. ≥40 years), and reanalyzed the data on ideal and actual attire selection. The analysis showed no significant age difference. Regarding actual attire, we were concerned that many GPs chose their attire according to facility rules rather than their own preference. In a comparison of ideal and actual attire in non-hospital settings, non-white coat attire was chosen more often as ideal attire than as actual attire. Casual attire was selected more in these settings. In addition, when we examined the ideal attire for GPs who chose a white coat according to the

facility rules, we found that preference for non-white coat attire increased in non-hospital settings.

We found that Japanese GPs chose to wear attire other than white coats because of ease of movement and to appear more empathic to patients. A survey of physician attire in Japan reported that patients preferred primary care physicians in clinics to wear white coats.^{18,21} It is possible that the attitudes of physicians and patients to the wearing of white coats in clinics differ. To clarify this point, we hope to conduct research on interactions between doctors and patients in the future. A previous Korean study showed that patients perceived Korean oriental medicine physicians who wore white coats as more empathic than those who wore casual clothing.²² There may be a discrepancy between physician and patient perception of casual attire. Further research is needed on this topic. In the present study, white coats were selected more often as both the most usual attire in actual practice and the most appropriate attire in hospitals, which accords with patient preference for physician attire.¹⁸ White coats were chosen as the most appropriate hospital attire because they give a professional impression. We suggest that this accords with the needs of patients, who seek expertise in hospital doctors. In clinics and home care settings, more GPs chose casual dress and cited the wish to appear empathic as a reason. Clinics and home care are the main primary care settings and afford closer physician–patient relationships. This closer relationship may explain why white coats were selected less in home care settings. It is possible that Japanese GPs choose clothes in consideration of differences in the needs of patients at specific practice settings. The finding that GPs consider different attire appropriate depending on practice setting is of great interest, and there are no reports of this tendency in the literature. The present findings may be useful in future research on the characteristics of good patient–doctor relationships.

A possible study limitation is the use of the JPCA mailing list to select subjects; the mailing list is a voluntary register and some GPs are not registered on the list. Although the response rate was low, the male and female ratio of the collected responses was the same as the GP gender ratio, and we concluded that there was no bias in the group composition.

Additionally, the subjects were limited to GP specialists; it would be interesting to investigate how other specialty doctors think about their attire. Furthermore, more detailed two-way investigations are needed that include home care settings.

CONCLUSION

In this Japanese sample, more than half of GPs did not wear white coats in non-hospital locations, and this tendency was particularly strong in home care settings (clinic provision). The attire that Japanese GPs consider suitable differs across practice settings, and GPs make efforts to present a specific image at each practice setting.

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CONFLICT OF INTERESTS

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or in the writing of the manuscript. The authors declare that they have no conflict of interest.

REFERENCES

1. Rehman SU, Nietert PJ, Cope DW, Kilpatrick AO. What to wear today? Effect of doctor's attire on the trust and confidence of patients. *Am J Med.* 2005;118(11):1279–1286.
2. Gooden BR, Smith MJ, Tattersall SJ, Stockler MR. Hospitalised patients' views on doctors and white coats. *Med J Aust.* 2001;175(4):219–222.
3. Ikusaka M, Kamegai M, Sunaga T, et al. Patients' attitude toward consultations by a physician without a white coat in Japan. *Intern Med.* 1999;38(7):533–536.
4. Koizuka M, Kuwajima I, Suzuki Y, Matsushita S, Kuramoto K. Changes in blood pressure and pulse rate during visit to a doctor's office [in Japanese]. *Nihon Ronen Igakkai zasshi. (Japanese Journal of Geriatrics).* 1992;29(12):912–917.
5. Fernandes E. Doctors and medical students in India should stop wearing white coats. *BMJ.* 2015;351:h3855.
6. Petrilli CM, Saint S, Jennings JJ, et al. Understanding patient preference for physician attire: a cross-sectional observational study of 10 academic medical centres in the USA. *BMJ Open.* 2018;8(5):e021239.
7. Gherardi G, Cameron J, West A, Crossley M. Are we dressed to impress? A descriptive survey assessing patients' preference of doctors' attire in the hospital setting. *Clin Med (Lond).* 2009;9(6):519–524.
8. Sotgiu G, Nieddu P, Mameli L, et al. Evidence for preferences of Italian patients for physician attire. *Patient Prefer Adherence.* 2012;6:361–367.
9. Landry M, Dornelles AC, Hayek G, Deichmann RE. Patient preferences for doctor attire: the white coat's place in the medical profession. *Ochsner J.* 2013;13(3):334–342.
10. Zahrina AZ, Haymond P, Rosanna P, et al. Does the attire of a primary care physician affect patients' perceptions and their levels of trust in the doctor? *Malays Fam Physician.* 2018;13(3):3–11.
11. Batais MA. Patients' attitudes toward the attire of male physicians: a single-center study in Saudi Arabia. *Ann Saudi Med.* 2014;34(5):383–389.
12. Menahem S, Shvartzman P. Is our appearance important to our patients? *Fam Pract.* 1998;15(5):391–397.
13. Sebo P, Herrmann FR, Haller DM. White coat in primary care: what do patients think today? Cross-sectional study. *Swiss Med Wkly.* 2014;144:w14072.
14. Kurihara H, Maeno T, Maeno T. Importance of physicians' attire: factors influencing the impression it makes on patients, a cross-sectional study. *Asia Pac Fam Med.* 2014;13(1):2.
15. Ishikawa M. Eliminating the image of white coats and hospitals has increased patients' motivation for active treatment [in Japanese]. *Jpn J Rehabil Med.* 2017;54(10):811–813.
16. Tiang KW, Razack AH, Ng KL. The 'auxiliary' white coat effect in hospitals: perceptions of patients and doctors. *Singapore Med J.* 2017;58(10):574–575.
17. Toi T, Murata A, Ota H, Komiyama M, Ohashi H, Kusaba T. Fact-finding survey on the activities of family medical specialists [in Japanese]. *Nippon Primary Care Rengou Gakkaishi.* 2016;39(4):243–249.
18. Yamada Y, Takahashi O, Ohde S, Deshpande GA, Fukui T. Patients' preferences for doctors' attire in Japan. *Intern Med.* 2010;49(15):1521–1526.
19. Aldrees T, Alsuhaibani R, Alqaryan S, et al. Physicians' attire. Parents preferences in a tertiary hospital. *Saudi Med J.* 2017;38(4):435–439.
20. Maruani A, Leger J, Giraudeau B, et al. Effect of physician dress style on patient confidence. *J Eur Acad Dermatol Venereol.* 2013;27(3):e333–337.
21. Kamata K, Kuriyama A, Chopra V, et al. Patient preferences for physician attire: a multicenter study in Japan. *J Hosp Med.* 2020;15(4):204–210.
22. Chung H, Lee H, Chang DS, et al. Doctor's attire influences perceived empathy in the patient-doctor relationship. *Patient Educ Couns.* 2012;89(3):387–391.
23. Cobos B, Haskard-Zolnieriek K, Howard K. White coat hypertension: improving the patient-health care practitioner relationship. *Psychol Res Behav Manag.* 2015;8:133–141.