BMJ Open

Perceptions of family medicine among long-term patients of a family medicine clinic in Japan: a mixed-methods study

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To cite: Sato K, Michinobu R, Kusaba T. Perceptions of family medicine among long-term patients of a family medicine clinic in Japan: a mixed-methods study. *BMJ Open* 2024;**14**:e079726. doi:10.1136/bmjopen-2023-079726

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2023-079726).

Received 10 September 2023
Accepted 03 January 2024

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ABSTRACT

Objectives To examine the perceptions of family medicine among patients attending a family medicine clinic for over 10 years in Japan and explore the unique characteristics of a family medicine which was developed in the local community in northern Japan.

Design Explanatory, sequential mixed-method design comprising a survey by questionnaires and semistructured interviews.

Setting The study was conducted at one of the oldest family medicine primary care clinics in Japan. We surveyed and interviewed participants from November 2019 to March 2020.

Participants 144 patients who have attended a family medicine clinic since April 2009 completed the questionnaires. Semistructured interviews with nine participants were conducted.

Results Among the respondents, 131 (91%) reported having attended a family medicine clinic. In terms of their perceptions of what 'family physicians' do, 42 (35%) stated 'a doctor who treats various diseases with a general view', 34 (29%) stated 'a doctor who treats outpatients and visit patients' houses', and 15 (13%) stated 'a doctor whom one can consult for anything and is familiar with one's family and lifestyle'. The results of the qualitative analysis revealed two themes with regard to patients' perceptions of family medicine: 'seeing the whole person and referring suitably' and 'medical care at home'. Patients' perceptions of family medicine identified in the quantitative study were strongly associated with the characteristics extracted from the qualitative study.

Conclusion Patients attending the family medicine clinic had clear perceptions of what family physicians do. The two major perceptions of the characteristics of family medicine were identified as 'seeing the whole person and referring suitably' and 'medical care at home'.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The participants represented a unique population with no preconceptions of family medicine at their first visit and subsequently formulated their perceptions over 10 years or more.
⇒ The quantitative results from phase 1 were used to guide the maximum variation sampling for the qualitative analysis in phase 2.
⇒ Using the joint display of mixed-methods study, the results of the quantitative study were explained by the results of the qualitative study revealed by the narratives based on actual patient experiences.
⇒ Changes in patients' perceptions of family medicine could not be investigated qualitatively during the interviews in phase 2 because the narrative of their current perception was central and limited in revealing the process of change.
⇒ Generalisability could be limited as the medical environment in the local context might have an impact on patients' perceptions of family medicine.

INTRODUCTION

As Japan approaches an increasingly ageing society, it needs to address the issue of rising medical expenses and secure high-quality medical care.[1] Family physicians who provide primary healthcare to ageing populations are considered key players in addressing this issue.[2 3] In 2018, family physicians were authorised by the Japanese Medical Specialty Board to become general practice specialists.[4] While the Japanese Medical Specialty Board[5] and the World Organization of Family Doctors[6] have defined the specialty of family medicine, the Japanese people need to further understand how it contributes to their health and everyday lives.

Some earlier studies in Japan have examined the general population's perceptions of family physicians.[7 8] However, these studies mainly included in their sample respondents who were not posed questions regarding their experience of family medicine. No previous study has examined patients who have actually attended a family medicine clinic in its exploration of the perceptions of a care user in primary healthcare.

We therefore investigated the perceptions of family medicine among patients attending a family medicine clinic in northern Japan. The participants were patients who had consulted with family physicians for over 10 years. We also considered the unique characteristics of family medicine in Japan which was developed within a local context from the

perspective of the patients. We assumed that when patients have not attended a family medicine clinic, they would consider it as one of a number of medical institutions; however, as they become more aware of family medicine clinics, they would eventually come to understand the unique characteristics of family medicine. Their perceptions of family medicine developed during this process are mainly based on the impressions and expertise that patients have of their doctors. Therefore, we treated perceptions of family physicians and family medicine as almost synonymous from the patients' viewpoint in this study.

The aims of this study were as follows:

- To examine the perceptions of family medicine among patients attending a family medicine clinic for over 10 years.
- To explore the unique characteristics of family medicine in Japan which was developed in the local community in northern Japan.

METHODS

Study setting and participants

The Motowanishi Family Clinic (MFC)[9] is located in Hokkaido's Muroran City, opened in 1996 before family medicine was authorised in 2018 and is one of the oldest family medicine clinics in Japan. It is also an educational clinic that trains family physicians. While the MFC mainly advocates internal medicine and paediatrics, family medicine has also been listed in parentheses on its signage. The clinic operates a group practice with four physicians providing both outpatient and home visits. All patients who had been attending the MFC every 1–2 months since April 2009 and those who continued to attend the clinic regularly as of April 2019 were included in the study. Patients attending the clinic for >10 years and receiving continuous treatment are defined as long-term patients. Patients who could not complete the questionnaire or be interviewed due to dementia or old age were excluded by

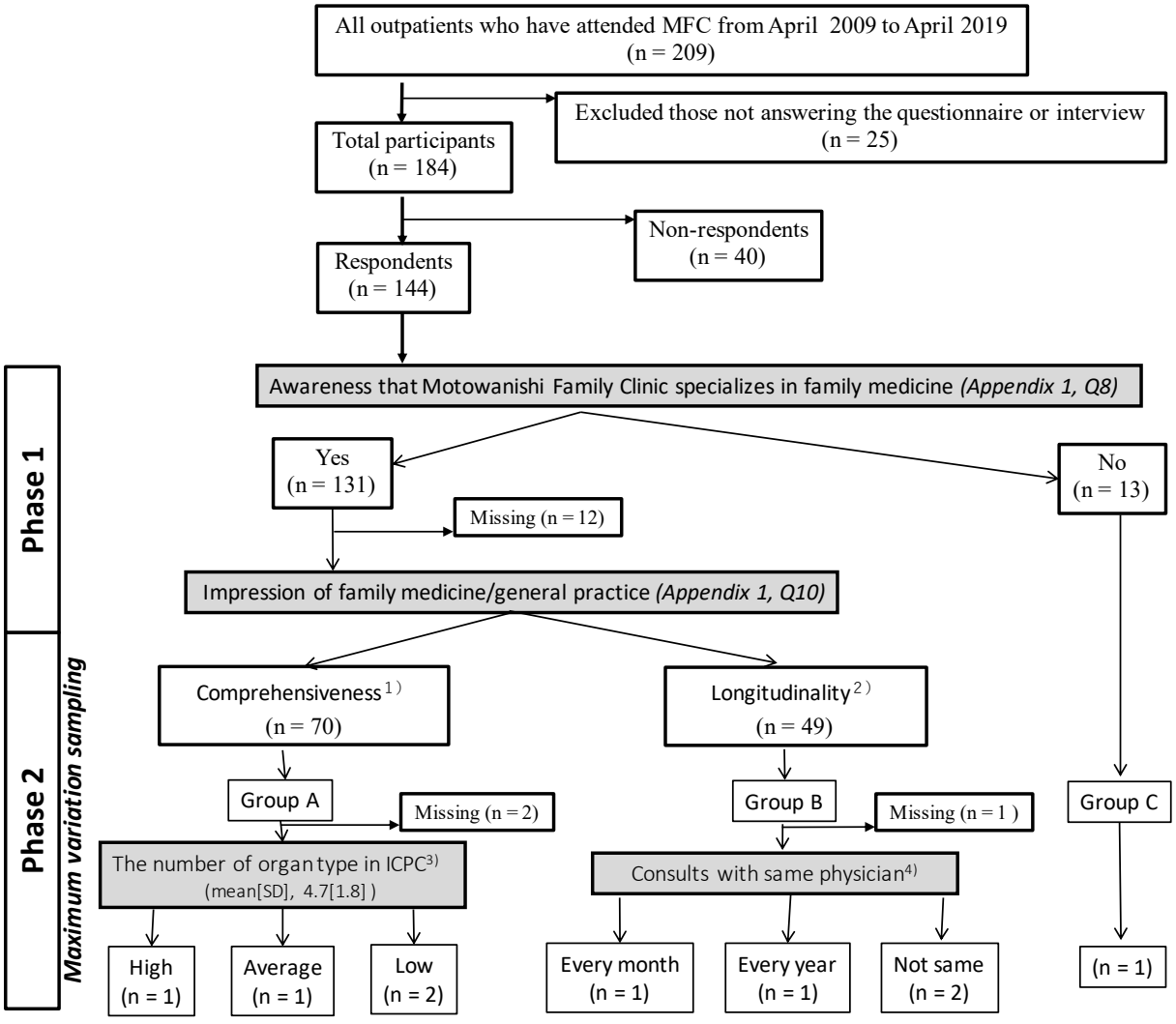

Figure 1 Study flow diagram. [1]Participants who selected options 1–6 for question 10 of the patient questionnaire (online supplemental appendix 1). [2]Participants who selected options 7–8 for question 10 of the patient questionnaire (online supplemental appendix 1). [3]Refer to question 5 of the doctor questionnaire (online supplemental appendix 3). [4]Refer to question 2 of the patient questionnaire (online supplemental appendix 1). ICPC, International Classification of Primary Care; MFC, Motowanishi Family Clinic.

the MFC physicians (figure 1). The physicians recruited candidate participants at the end of a medical consultation and obtained their consent.

Research design

A mixed-methods, explanatory, sequential design was used from the pragmatism paradigm perspective.[10] In phase 1, a quantitative method based on a questionnaire was used to obtain basic information about the participants and their perceptions of family medicine. In phase 2, a qualitative method based on interviews was used to determine the reasons for their responses in phase 1. The results of phases 1 and 2 were subsequently combined and interpreted. In both phases, we explained in advance and assured the participants that their cooperation or non-cooperation in the study would not affect, in any way, the medical care they receive and that they would not suffer any disadvantages. Please refer to our published protocol.[11]

Procedures

Phase 1

We prepared the physicians to explain the study outline before phase 1. Participants received an explanation of the study from the physicians and, if they assented, responded to the questionnaire by mail from November 2019 to December 2019. Data from the questionnaire were entered by one researcher (KS) and checked by another researcher (RM). The participants' characteristics, type of medical care they received, their current medical care, their Japanese version of the Primary Care Assessment Tool (JPCAT)[12] score and their awareness of the specialty of family medicine (whether they knew that the MFC provided family medicine) were surveyed. The type of health problem was determined using the 17 different organ-specific alphabetical chapters of the International Classification of Primary Care (ICPC).[13] The same items of the survey questionnaire used to investigate the general population's perception of a 'family physician' in a previous study[8] were used to clarify the characteristics of family medicine as subjectively considered by the patients. The survey method, the survey items and the questionnaire are presented in online supplemental appendices 1–3.

Phase 2

Using the results from patients' perceptions of specialty in family medicine, we conducted maximum variation sampling.[14] Specifically, the participants were divided into groups A, B and C according to whether or not they knew that the MFC provided family medicine. If they did, we assessed whether they more strongly perceived family medicine for its comprehensiveness or longitudinality. First, for comprehensiveness (group A), the interviewees were selected according to the number of organ types in the ICPC. If comprehensiveness is recognised as a characteristic of family medicine, it is highly likely that patients are attending the MFC for a wide variety of organ health problems. Therefore, to ensure diversity, we selected two participants with a low number of organ types, one with an average number of organ types and one with a high number of organ types. For longitudinality (group B), participants visiting the same physician each time had a reinforcing effect on longitudinality regarding the doctor-patient relationship. Therefore, to ensure diversity, we selected one participant who attended the same physician monthly, one who saw the same physician annually and two participants who saw a different physician every time. In order of decreasing study identification number from the eligible participants, one or two participants from each group were included in Phase 2 after the researcher contacted them and obtained their consent to be interviewed. Semistructured interviews were conducted by two researchers (KS and RM) with nine participants (table 1) according to the interview guide (online supplemental appendix 4) from February 2020 to March 2020. The study flow diagram is shown in figure 1. All interviews were recorded and transcribed.

Data analysis

Quantitative data were analysed using descriptive statistics. We also analysed the univariate correlations between

Table 1 Description of participants in the qualitative study (phase 2)

Group	Impression of family medicine/ general practice	Code	Sex	Age	Organ types in ICPC (n)	Consults with the same physician
A	Comprehensiveness	A	Female	70s	7	Every month
A	Comprehensiveness	B	Female	70s	1	Every year
A	Comprehensiveness	C	Male	70s	2	Every month
A	Comprehensiveness	D	Female	70s	5	Every month
B	Longitudinality	E	Female	60s	5	Every month
B	Longitudinality	F	Female	70s	6	Not the same
B	Longitudinality	G	Male	70s	5	Every year
B	Longitudinality	H	Female	70s	3	Not the same
C	No awareness of family medicine	I	Female	70s	8	Not the same

ICPC, International Classification of Primary Care.

Table 2 Patients' characteristics at baseline by awareness of family medicine

Characteristics	Aware of MFC as a family medicine clinic (n=131)	Not aware of MFC as a family medicine clinic (n=13)	Missing	P value
Age, mean (SD)	74.5 (±10.8)	75.3 (±6.6)	2	0.78
Sex, female, n (%)	76 (59.8)	5 (38.5)	4	0.15
Living alone, n (%)	33 (27.7)	2 (18.1)	14	0.72
Educational attainment (high school graduate or above), n (%)	74 (61.7)	8 (72.7)	13	0.54
Distance from home to MFC, km, mean (SD)	3.6 (±3.1)	2.9 (±2.6)	3	0.47
Over 15 years of clinic attendance, n (%)	70 (53.9)	7 (58.3)	2	1.00
Consults with the same physician, n (%)	75 (57.7)	4 (30.8)	1	0.08
Medical consultation within 5 min, n (%)	20 (15.3)	4 (30.7)	1	0.23
Monthly clinic visit, n (%)	83 (65.4)	10 (76.9)	4	0.54
Currently visiting other clinics or hospitals, n (%)	81 (61.8)	11 (84.6)	0	0.13
With family members who also visit MFC, n (%)	81 (61.8)	5 (41.7)	1	0.22
Recognises MFC as a teaching clinic, n (%)	123 (93.9)	11 (84.6)	0	0.22
Number of diseases, mean (SD)	6.4 (±2.6)	7.5 (±3.1)	3	0.13
Number of organ types in ICPC, mean (SD)	4.8 (±1.6)	5.5 (±1.5)	3	0.14
Presence of psychological disorders, n (%)	56 (43.8)	7 (53.9)	3	0.56
Presence of social disorders, n (%)	35 (27.3)	3 (23.1)	3	1.00
Number of unscheduled visits for 10 years, mean (SD)	8.1 (±9.7)	9.3 (±9.1)	3	0.67
Number of organ type in ICPC, mean (SD)	3.2 (±1.9)	3.2 (±1.7)	3	0.94
Number of referrals for 10 years, mean (SD)	3.1 (±3.3)	3.2 (±2.6)	3	0.96
Number of organ types in ICPC, mean (SD)	1.9 (±1.4)	2.1 (±1.6)	3	0.67
JPCAT total score, mean (SD)	65.6 (±17.1)	52.7 (±15.0)	27	0.05*
First contact (per domain), mean (SD)	54.7 (±26.2)	42.5 (±36.4)	21	0.18
Longitudinality, mean (SD)	76.8 (±21.4)	57.5 (±17.9)	18	0.007*
Coordination, mean (SD)	78.6 (±26.9)	54.2 (±35.9)	22	0.01*
Comprehensiveness (services available), mean (SD)	72.8 (±22.7)	53.4 (±11.0)	24	0.02*
Comprehensiveness (services provided), mean (SD)	35.1 (±34.5)	37.5 (±29.3)	23	0.84
Community orientation, mean (SD)	75.4 (±20.8)	56.3 (±25.2)	13	0.007*

*P<0.05.
ICPC, International Classification of Primary Care; JPCAT, Japanese version of the Primary Care Assessment Tool; MFC, Motowanishi Family Clinic.

the nominal variable of being aware versus not being aware that the MFC specialises in family medicine and each item identified during the exploratory process. Pairwise deletion was used to manage missing data in table 2 (online supplemental appendix 5). We managed and analysed quantitative data with JMP V.15.2 (SAS Institute) and tested the hypotheses at the 0.05 level of statistical significance using two-sided tests.

Qualitative data were anonymised, and each participant was allocated a code number. They were analysed independently by two researchers using thematic analysis to explain patient perceptions.[15 16] This analysis identified recurrent patterns in the data and explored the meanings of the observed categories of patients' perceptions of family medicine. We excluded the interview results from group C because no theme regarding family medicine characteristics was mentioned in the participants' narratives. We interviewed individuals from diverse backgrounds using this sampling technique and found no new themes emerging. Thus, we determined that theoretical saturation had been reached with eight interviews.

The qualitative results of phase 2 were combined with the quantitative results of phase 1 in terms of how they corroborate the quantitative results of phase 1.[10]

Patient and public involvement

Patients were not involved in the design of the study. The study findings were disseminated to the patients and neighbours via a lecture.

Table 3 Patients' main perception of family medicine*

Characteristics	n=131 n (%)
A doctor who treats various diseases with a general view.	42 (35.3)
A doctor who can treat outpatients and visit patients' houses while showing kindness from the perspective of the patient and his/her family.	34 (28.6)
A doctor whom you can consult for anything and is familiar with your family and lifestyle.	15 (12.6)
A doctor whom you consult first and who decides which specialty you should visit in a big hospital.	9 (7.6)
A doctor who specialises in internal medicine.	7 (5.9)
A doctor who has wide knowledge of various diseases, conditions and treatments not limited to any specific organ.	7 (5.9)
A doctor who does not specialise in any specific field.	3 (2.5)
A doctor who quickly addresses emergency health problems.	2 (1.7)
Missing	12 (9.1)

*Refer to question 10 of the patient questionnaire (online supplemental appendix 1).

RESULTS

The total number of participants in phase 1 was 184, and the number of respondents was 144 (response rate: 78%). Of the respondents, 131 (91%) were aware that the specialty of the MFC was family medicine, 10 (7%) were aware of internal medicine and 2 (1%) were not aware of any specialty. A comparison of basic information between the groups who were and were not aware of the MFC as a family medicine clinic is shown in table 2. The comparison of these two groups showed no significant differences in several basic information such as age and gender and in items related to specific medical treatment. However, the group that was aware of the MFC as a family medicine clinic had statistically significantly higher scores in the total JPCAT score (16), longitudinality, coordination, comprehensiveness and community orientation domains. Furthermore, this group also tended to have a higher percentage of patient consulting with the same physician.

The types of doctors perceived as family physicians by the groups who were aware of family medicine are described in table 3.

The qualitative study that explored the perceived characteristics of family medicine according to those attending a family medicine clinic revealed two themes: 'seeing the whole person and referring suitably' and 'medical care at home'.

Seeing the whole person and referring suitably

This theme encompassed five codes: comprehensiveness, coordination, responsiveness, longitudinal care and understanding the whole person. Participants perceived family medicine as medical care that first looks at the whole picture, consults with the patient on all health issues and in some cases refers them to a specialist doctor. Organ-specific specialists offer patients diagnoses and treatments targeted towards the specific organ they specialise in, but they cannot treat health problems in other areas outside their scope of practice. Therefore, patients look to their organ-specific specialists to ensure that their health problems fit within their doctor's area of expertise. Contrastingly, family medicine looks at the patient's overall health; therefore, patients can consult with family physicians on any health-related problem without reservation. The following quotations reflect these themes:

> They don't just look at this part of the body, they look at the whole body. I can talk to them without hesitation because they don't say, 'I'm only looking at this disease.' They listen to me in a relaxed atmosphere when I tell them my health concerns. I have referred them to my friends who were not sure where to go to see a doctor. (E)

> I am able to get a comprehensive review of everything, so I first consult with the clinic. They also make appropriate referrals, which is reassuring. I feel comfortable that they know me because I have been with them for a long time. (D)

> They understand everything. They look at the whole picture, and if there is anything wrong, they will refer you to a hospital. It's a clinic that looks at most things in a variety of fields. (H)

Medical care at home

This theme encompassed three codes: medical care coming home, home care and continual care. Doctors and nurses would visit the patients at their homes to provide medical care if they were unable to visit the clinic or were bedridden. They also believed that doctors and nurses would be able to visit their homes to see them in cases of sudden physical changes. The following quotations relate to these themes:

> At first I didn't understand. I wonder if the clinic would make the rounds. At my age, that might be a better idea. It will be hard to move around. (C)

> I didn't know about family medicine at first. I heard that Mr. I, a neighbor, had passed away on a house call and that the nurse visited Mrs. J. That's how I found out the medical staff was coming to patients at home. (F)

> I've heard about family medicine and the doctor is going around with a bag. The doctor says, 'I can come to your house.' (G)

In the final phase of the analysis, we created a joint display to corroborate the results of the quantitative and qualitative studies (figure 2). The top three of patients' perceptions of family medicine identified in

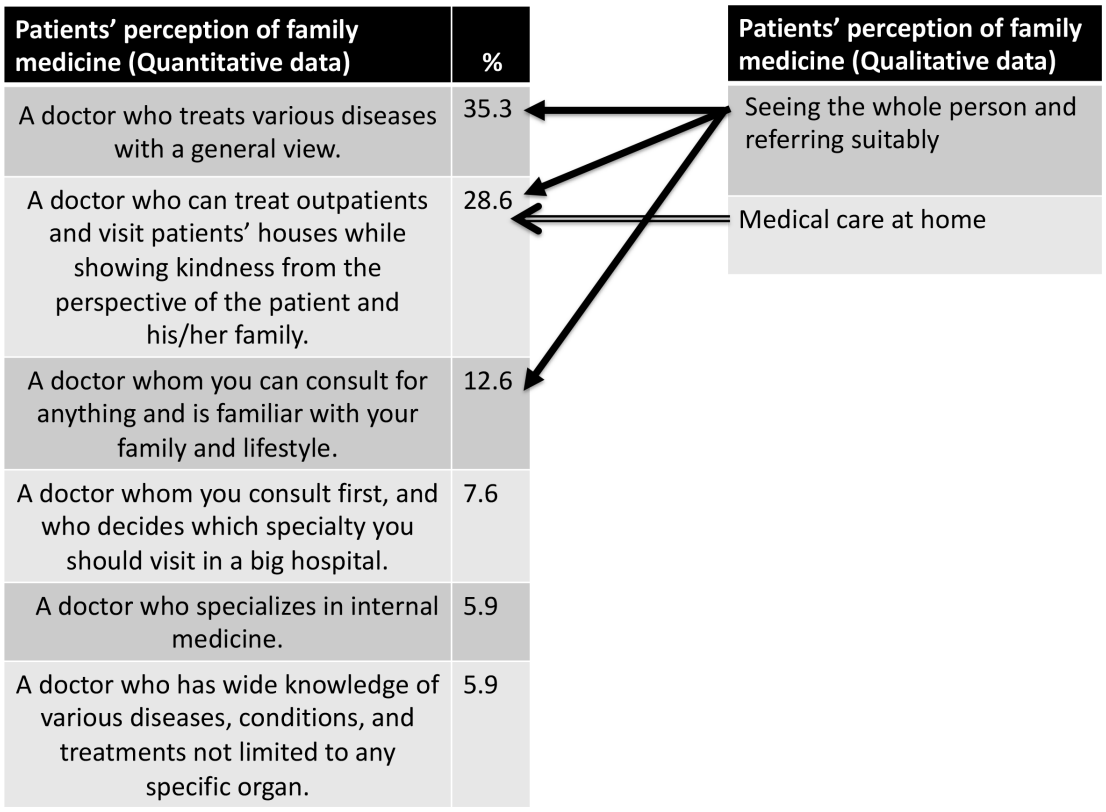

Figure 2 Patients' perceptions of family medicine related to the qualitative results.

the quantitative study strongly associated with the characteristics extracted from the qualitative study and were consistent in content.

DISCUSSION

A mixed-methods research was conducted with long-term patients attending a family medicine clinic in Japan. The majority of the participants indicated that they had attended family medicine clinics. The two major perceptions of the characteristics of family medicine were identified as 'seeing the whole person and referring suitably' and 'medical care at home'.

Patients' perceptions of family medicine in Japan

Previous studies on perceptions of family medicine in Japan did not focus on the patients, but on the general population.[8] They mainly focused on findings that were not based on actual experiences of receiving medical care, but on the ideals[7] or impressions derived from the term 'family medicine' or 'general practice'. This study was the first to reveal the perceptions of patients who had attended a family physician as their usual source of care for >10 years. The results showed that, first, the majority of the patients were aware of family medicine. No differences were found in patient characteristics or medical treatments in terms of awareness of family medicine. The total score of JPCAT, a patient-reported scale of patient experience, [12 17] was higher in the group which was aware of family medicine, although the proportion of those attending for >15 years did not differ in both groups.

The high-quality patient experience of primary care might establish family medicine as the new name instead of internal medicine.

Comparison of patients' and the general population's perceptions

In a previous study on a general population aged 70 years or older,[8] 36% of specialists of family medicine were doctors who treated various diseases with a general view, 31.5% whom you consult first and decides which specialty you should visit in a big hospital, and 13.8% with wide knowledge of various diseases, conditions and treatments not limited to any specific organ. The percentages of doctors who treated various diseases with a general view were similar to those in this study. This was followed by a doctor whom patients can consult for anything and is familiar with the patient's family and lifestyle (2.8%), and who can treat outpatients and visit patients' houses while showing kindness from the patient's perspective (2.2%). However, their distributions were different. The general population's perception of family medicine is that of a doctor who has a wide range of disease knowledge, sees patients with a variety of diseases, and can provide diagnoses and treatments based on the patient's condition. However, the perception of patients in this study was that, in addition to seeing patients with various diseases, they could consult with family physicians on matters other

than diseases and receive home-based medical care. Consultation on matters pertaining to everyday problems or family relationship concerns is not something that the general population would likely request from a medical institution. Patients who have been visiting the family medicine clinic for many years feel that this is something that differentiates them from other medical institutions. However, it has been highlighted that patients have preferences for this kind of consultation depending on their characteristics.[18] It is noteworthy, however, that it may be an overstatement to suggest that the patients' perception of family medicine is that family physicians can be consulted about anything, since it is possible that patients who prefer to discuss anything may have been attending the MFC for a long period of time in this community.

Characteristics of family medicine unique to Japan: medical care at home

'Seeing the whole person' evokes comprehensiveness, and 'referring suitably' evokes coordination, which is almost consistent with one of the key concepts that characterise family medicine.[19] 'Medical care at home' is a highly unique theme and is not a universal characteristic of family medicine.[5 6] It is possible that family medicine was interpreted by patients as medical care at home due to the MFC's historical background, where no other medical institution provided home visits in the area and several physicians have been providing home visits as a teaching clinic. Home visits are not an exclusive domain of the medical services offered by family physicians. However, they constitute a medical setting in which the strengths of family physicians can be used. Their primary goal is not to cure the patient, but to set individual goals that emphasise the patient's sense of values, while also looking after the patient's family and forming a network of cooperation with multiple professions.[19] This differentiation of MFC may have been recognised in combination with the name 'family' physicians.

There have been discussions,[20 21] mainly in Europe, about the workload and delegation of work to family physicians regarding home visits. In this study in the Japanese context, patients perceived that a physician who had been providing outpatient care could provide home-based care if patients are unable to come to the clinic.

Study limitations

It is possible that many of the patients who agreed to cooperate in the study after receiving explanations from their doctors but did not respond to the questionnaire were not aware that they were in a family medicine clinic. However, the questionnaire collection rate was 78%, which was considered representative of the target population. Additionally, the multiple-choice format of the questionnaire was considered unlikely to cause social desirability bias.

It was assumed that most participants had a satisfactory clinic visit experience because they have visited the clinic for >10 years. Therefore, negative perceptions of family medicine might not have emerged. We addressed this issue in phase 2 through semistructured interviews posing questions about future shortcomings and expectations. The results of this study showed that patients' perceptions of family medicine were also influenced by the medical situation surrounding the MFC in Muroran City, indicating that it may be difficult to generalise the results. We also initially attempted to identify temporal changes in patients' perceptions of family medicine. However, the narratives of how they currently perceive family medicine were central to their talks, which made it difficult to reveal the process of change.

Acknowledgements We would like to thank all the doctors who worked at the Motowanishi Family Clinic and the staff who helped with the research, most especially F Toru. We would like to thank Editage (www.editage.jp) for English language editing.

Contributors KS and RM designed the study, derived the indicators and data set for analysis, and conducted the analysis. KS, RM and TK contributed to the interpretation of the work. KS and RM drafted the paper. KS write the paper. RM and TK read and approved the final manuscript. KS is the guarantor.

Funding This study was supported by a research grant to the study team from the Japan Primary Care Association in 2019.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design. We disseminated results of this study in the lecture. Refer to the Methods section for further details.

Patient consent for publication Not required.

Ethics approval This study involves human participants and was approved by the Institutional Review Board of the Japan Primary Care Association (2019-003). Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement No data are available.

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