

Descriptive Study of Patients Treated in a Psychosomatic Internal Medicine Declared by Japanese Family Medicine Clinic

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Abstract

Background: Psychosomatic internal medicine (PSIM) assesses psychosocial factors and provides holistic consideration. In Japan, PSIM physicians seem to be recognized as providers of mental health services, but family medicine did not so. When family physicians confront with psychological problems, high dropout rate is reported so it is needed to reveal factors related to dropouts. The purpose of this study is to describe characteristics of patients, treatment dropouts and its related factors in PSIM practice by family physician.

Methods: This cross-sectional study used data from the medical records of the Kitaibaraki Center of Family Medicine located in Kitaibaraki City, Ibaraki, Japan. The study included all new patients who made an appointment and visited the PSIM in this clinic from January 2020 to December 2022. Chief complaints and diagnoses were coded based on the International Classification of Primary Care, version 2 (ICPC-2).

Results: In total, 377 new patients were included in this study. The mean age was 39.9 ± 20.2 years. We found that 69.2% of patients who visited the clinic had a psychological chief complaint and 84.1% of primary diagnoses consisted of a psychological problem. One hundred sixty-five patients (43.8%) were still receiving treatment 6 months after the initial visit. Of the patients who ended treatment within 6 months after the initial visit, 84 patients (39.2%) dropped out. In multivariate analysis, the dropouts were less likely to occur patients with primary diagnosis of psychological problem (odds ratio (OR): 0.35, 95% confidence interval (CI): 0.19 - 0.67).

Conclusions: Patients who visited a PSIM wanted consultation about

psychological problems. Patients with a diagnosis of a psychological problem at the initial visit were less likely to drop out.

Keywords: Psychosomatic internal medicine; Psychological problem; International Classification of Primary Care; Primary care patients

Introduction

The World Health Organization recommends the integration of mental health care and treatment into general hospitals and primary care clinics to improve access to care and service quality [1]. Psychological problems comprise 7.8-26.4% of problems seen by general practitioners [2, 3]. Even in countries where patients directly access specialists, it is more common for patients to consult a primary care physician for a psychological problem than to directly consult psychiatrists [4, 5]. Patients with depression often complain of physical symptoms, so primary care physicians are needed to recognize the underlying mental health problem [6]. Primary care physicians deal with health problems in their physical, psychological, social, cultural, and existential dimensions [7].

There are some issues to manage psychological problems in primary care. Patients sometimes recognize that primary care physicians do not have sufficient knowledge or skills to manage psychological problems [8]. It may be useful to clarify their ability to manage mental health problems, especially in countries where family physician's role is not widely recognized.

Psychosomatic medicine (PSM) aims to assess psychosocial factors and provides holistic consideration, and integration of psychological therapies [9]. The current status of PSM varies by country; it is well developed and conceptualized in Germany, but in the United States it is considered a subspecialty of psychiatry. In Japan, PSM has independent status but physicians of psychosomatic internal medicine (PSIM), which is a part of PSM, seem to be recognized as providers of mental health services in addition to psychiatrists [10, 11]. Some family physicians in Japan declare PSIM in order to clarify that they can deal with psychological problems because the family physician's specialty is not widely recognized in Japan.

Other issues to manage psychological problems in primary care is higher treatment dropout rates [12]. It has also been reported that dropouts are more likely to occur within two visits

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[12]. The relation about sociodemographic characteristics or diagnosis in the dropouts varies from report to report, but most of these reports are from countries where the role of the family physician is well recognized [12-14]. If family physicians declare PSIM as a specialty in a country where family physician's specialty is not widely recognized, it is assumed that they will manage psychological problems in addition to the usual practice of family medicine. It is unclear what problems being brought by patients, diagnosis, prescription patterns, and treatment dropout and related factors in PSIM practices by family physicians. Therefore, we aimed to describe the characteristics of a series of new patients who visited the clinic.

Purpose

The purpose of this study was to describe the characteristics of patients, treatment dropouts and its related factors in PSIM practice by family physicians. Our study can provide insight on what problems family physicians should address by clarifying whether they can address both physical and psychological problems in countries where their role is not recognized.

Materials and Methods

Study setting

This cross-sectional study used data from the medical records of the Kitaibaraki Center of Family Medicine (KCF) located in Kitaibaraki City, Ibaraki, Japan. Kitaibaraki City is a small city located 200 km from Tokyo, with a population of approximately 41,000. In this city, there is one psychiatric hospital and one psychiatric clinic. The psychiatric clinic also operates as a PSIM clinic. There are no other PSIM clinics besides that clinic and KCF.

KCF is an outpatient clinic that has offered care in internal medicine, pediatrics, and PSIM since it opened in 2015. Patients who want to visit the PSIM are required to make an appointment. Other patients can visit without an appointment. Five doctors, including three to four family physicians and one to two residents in family medicine, work in this clinic. All doctors take on patients who visit PSIM. They graduated from medical school 4 to 27 years before the study. When established clinic patients want to make an appointment for PSIM, they are told to discuss their psychosomatic problem during their regular consultation.

KCF had the following policies about appointments for PSIM. The number of new patient appointments was limited to 7 per week based on 2019 performance. One family physician who has worked for more than 2 years at KCF triaged whether it was acceptable for a new patient to wait until the day of the appointment. This triage was based on telephone consultation by clinic staff members or referrals from other hospitals or clinics. The triaging physician recommended visiting a psychiatrist if the patient had the following conditions: suspected schizophrenia or bipolar disorder, recurrent self-injury, severe suicidal ideation, unstable condition upon referral from a psy-

chiatrist, and diagnosis other than depressive or anxiety disorders upon referral from a psychiatrist. The triaging physician also recommended that a patient visit our clinic without an appointment or regular doctor if the condition was considered to be a somatic condition that needed immediate attention. If the patient received this recommendation but wanted to make an appointment, they could make an appointment. If the patient wanted to visit because of an alcohol problem, we made an appointment but did not schedule it as a PSIM appointment.

Participants

The study included all new patients who made appointments and visited the PSM in this clinic from January 2020 to December 2022. Each patient has been followed up for 6 months after his/her first contact. Those who refused to participate in the study by opting out were excluded.

Variables

Basic characteristics included the following: age, sex, residence (municipality), duration from appointment to consultation, regular doctor's visits at another hospital or clinic, prescription from another hospital or clinic, and referrals from another hospital or clinic. When patients were referred from another hospital or clinic, we classified that hospital or clinic as a psychiatric or psychosomatic hospital or clinic, internal medicine clinic, department of internal medicine based at a hospital, or other.

Psychotropic drugs included antidepressants, anxiolytics, hypnotics, and antipsychotics. This drug category was based on the Anatomical Therapeutic Chemical Classification System [15]. Hypnotics were further classified as benzodiazepines (BZDs), Z-drugs (zolpidem, zopiclone, and eszopiclone), melatonin receptor agonists (MRAs, ramelteon), or orexin receptor antagonists (ORAs, suvorexant and lemborexant).

Data about the first visit included the following: chief complaint (a patient can have multiple chief complaints), primary diagnosis, and prescriptions given. Each doctor clinically made a diagnosis based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). Chief complaint and diagnosis were coded based on the International Classification of Primary Care, version 2 (ICPC-2) [16]. ICPC-2 consists of 726 codes within 17 chapters representing bodily systems or topic areas [16]. Psychological problems are included in chapter P. In ICPC-2 Japanese version, the code P02: acute stress reaction includes both acute stress and adjustment disorders.

Outcomes included whether a patient was still receiving treatment, ended the treatment by consensus with their doctor, or dropped out by 3 and 6 months after the initial visit. In this study, dropout was defined as patient discontinuation of treatment despite having an appointment and did not come back to continue treatment for 6 months. If the patient was receiving treatment at 6 months after the initial visit, we recorded the primary diagnosis at 6 months. Referrals were also recorded.

Table 1. The Ten Most Common Chief Complaints (N = 377)

Chief complaint	N (%)
P06: sleep disturbance	107 (38.6)
P01: feeling anxious/nervous/tense	72 (26.0)
P03: feeling depressed	51 (18.4)
K04: palpitations/awareness of heart	37 (13.4)
N01: headache	29 (10.5)
P04: feeling/behaving irritable/angry	28 (10.1)
R02: shortness of breath/dyspnea	28 (10.1)
A04: weakness/tiredness general	26 (9.4)
P69: not elsewhere classified	22 (7.9)
N17: vertigo/dizziness	19 (6.9)
Z07: education problem	19 (6.9)

Each patient might have had more than one chief complaint.

Statistical analysis

All doctors who work at KCF recorded the chief complaint and diagnosis in the medical record. Data were collected and ICPC-2 codes were assigned by the first author. When the chief complaint and diagnosis were not clearly documented in the medical record, the first and second authors (both work at KCF) reached consensus through discussion.

To identify factors affecting dropout, we defined dropout as a dependent variable. Based on previous studies [17, 18], other variables including age, sex, residence, regular doctor's visits, referrals, primary diagnosis, and prescription at first visit (none, only psychotropic drugs, only drugs other than psychotropic drugs, and both psychotropic drugs and others) were regarded as independent variables. Differences in means were compared using the *t*-test. When data were not normally distributed, differences in medians were compared using the Mann-Whitney U test. Differences in proportions were compared using the Chi-square test. Logistic regression analysis was performed to clarify relating factors with dropouts. The odds ratio (OR) and 95% confidence interval (CI) were calculated. All variables were entered simultaneously. Statistical significance was defined as $P < 0.05$. Data were analyzed using IBM SPSS Statistics, version 28.

Ethical consideration

This study was conducted in accordance with the Declaration of Helsinki of 1975. Informed consent was obtained in the form of opt-out. The Ethics Committee of Kitaibaraki City Hospital approved this study (approval number 0301).

Results

Patient characteristics

In total, all 377 new patients (123 patients in 2020, 116 pa-

Table 2. The Ten Most Common Primary Diagnoses at the Initial Visit (N = 377)

Primary diagnosis	N (%)
P02: acute stress reaction	79 (21.0)
P76: depressive disorder	76 (20.2)
P74: anxiety disorder/anxiety state	36 (16.7)
P06: sleep disturbance	32 (8.5)
P79: phobia/compulsive disorder	13 (3.4)
P75: somatization disorder	12 (3.2)
Z07: education problem	11 (2.9)
K88: postural hypotension	8 (2.1)
P73: affective psychosis	8 (2.1)
R98: hyperventilation syndrome	7 (1.9)

tients in 2021, and 138 patients in 2022) were included in the analysis. The mean age was 39.9 ± 20.2 years. By age group, 79 patients (21.0%) were aged 10 - 19 years, 69 (18.3%) were aged 30 - 39 years, and 58 (15.4%) were aged 40 - 49 years. Of 377 patients, 223 patients (59.2%) were women and 294 patients (78.0%) lived in the city. The mean duration from appointment to consultation was 10.9 ± 8.4 days.

One-hundred fifty-two patients (40.3%) regularly visited doctors in other hospitals or clinics. One hundred sixty-four patients (43.5%) had been prescribed some medication at another hospital. Of these 164 patients, 90 patients (54.9%) had been prescribed psychotropic drugs.

The pathway to this clinic was referral from an internal medicine hospital for 37 patients (9.9%) and referral from a psychiatrist or PSIM hospital or clinic for 21 patients (5.6%). Three hundred four patients (80.6%) directly visited this clinic.

Chief complaint

The most common chief complaint was P06: sleep disturbance (107 patients, 38.6%), followed by P01: feeling anxious/nervous/tense (72 patients, 26.0%), P03: feeling depressed (51 patients, 18.4%), and K04: palpitations/awareness of heart (37 patients, 13.4%) (Table 1). Two hundred sixty-one patients (69.2%) had more than one psychological problem (ICPC-2, chapter P) and 116 patients (30.8%) only had non-psychological problems.

Diagnosis

The most common primary diagnosis at the initial visit was P02: acute stress reaction (79 patients, 21.0%), followed by P76: depressive disorder (76 patients, 20.2%), P74: anxiety disorder/anxiety state (63 patients, 16.7%), and P06: sleep disturbance (32 patients, 8.5%) (Table 2). The primary diagnosis of 317 patients (84.1%) was a psychological problem.

Table 3. The Eight Most Common Primary Diagnoses at 6 Months Among Patients Receiving Treatment at 6 Months (N = 165)

Primary diagnosis	N (%)
P76: depressive disorder	43 (26.1)
P74: anxiety disorder/anxiety state	35 (21.2)
P02: acute stress reaction	31 (18.8)
P06: sleep disturbance	9 (5.5)
P75: somatization disorder	8 (4.9)
P70: dementia	6 (3.6)
P79: phobia/compulsive disorder	5 (3.0)

Outcomes at 6 months

Of the 377 new patients, 165 patients (43.8%) were still receiving treatment at 6 months after the initial visit, 75 patients (19.9%) visited the clinic only once, 99 patients (26.5%) visited more than twice but ended treatment by 3 months after the initial visit, and 38 patients (18.7%) ended treatment between 3 and 6 months after the initial visit.

Sixty-two patients (16.4%) were referred to another hospital or clinic during the 6 months after the initial visit. Of these, 47 patients (75.8%) were referred and ended treatment at KCF. Referrals for psychiatry or other PSIM specialists were made for 41 patients. The remaining 21 patients were referred to a hospital or clinic for other specialties.

The most common primary diagnosis of 165 patients who were still receiving treatment at 6 months after the initial visit was P76: depressive disorder (43 patients, 26.1%), followed by P74: anxiety disorder/anxiety state (35 patients, 21.2%), and P02: acute stress reaction (includes adjustment disorders, 31 patients, 18.8%) (Table 3). One hundred forty-eight patients (83.8%) have a psychological problem as the primary diagnosis.

There were 212 patients who ended treatment within 6 months after the initial visit. Of these, 84 patients (39.2%) had dropped out. Compared with those who were receiving treatment at 6 months or ended treatment by consensus in univariate analysis, dropouts were significantly less likely to occur among patients whose primary diagnosis at the initial visit was a psychological problem (71.4% vs. 87.7%; $P < 0.01$) (Table 4). The median number of visits for patients who dropped out was 2, while that for those who were receiving treatment at 6 months or ended treatment by consensus was 6 ($P < 0.01$). In multivariate analysis, dropouts were less likely to occur in patients with primary diagnosis of psychological problem (ICPC-2, chapter P) (OR: 0.35, 95% CI: 0.19 - 0.67) (Table 5).

Prescription

A prescription was given at the initial visit to 259 patients (68.7%). Psychotropic drugs were prescribed for 172 patients (45.6%) and Kampo was prescribed for 110 patients (29.2%). The mean number of psychotropic drug prescriptions among patients who were prescribed psychotropic drugs was $1.0 \pm$

Table 4. Comparison Between Patients Who Dropped out of Treatment and Others (Univariate Analysis, N = 377)

	Dropped out (n = 84)	Receiving treatment or ended treatment by consensus (n = 293)	P value
Sex, n (%)			
Male	27 (32.1)	127 (43.3)	0.066
Female	57 (67.9)	166 (56.7)	
Age, years, median (IQR)	33 (34)	39 (32)	0.15 ^a
Residence in the city, n (%)	64 (76.2)	230 (78.5)	0.65
Referral, n (%)			
Yes	12 (14.3)	61 (20.8)	0.18
Regular doctor visits, n (%)			
Yes	34 (40.5)	118 (40.3)	0.97
Prescription given at the initial visit, n (%)			
None	25 (29.8)	93 (31.7)	0.76
Only psychotropic drug	21 (25.0)	82 (28.0)	
Only non-psychotropic drug	23 (27.4)	64 (21.8)	
Both	15 (17.9)	54 (18.4)	
Primary diagnosis at the initial visit, n (%)			
Psychological problem (ICPC-2, chapter P)	60 (71.4)	257 (87.7)	< 0.01
Number of visits in 6 months, median (IQR)	2 (3)	6 (6)	< 0.01 ^a

^aMann-Whitney U test. Other variables were examined by Chi-square test. ICPC-2: International Classification of Primary Care, version 2; IQR, interquartile range.

Table 5. Comparison Between Patients Who Dropped out of Treatment and Others (Multivariate Analysis, N = 277)

	Odds ratio	95% CI
Sex		
Male (reference)		
Female	1.44	0.85 - 2.47
Age		
Residence in the city	1.16	0.64 - 2.11
Referral		
Regular doctor visits	1.25	0.68 - 2.32
Prescription given at the initial visit		
None (reference)		
Only psychotropic drug	1.44	0.71 - 2.94
Only non-psychotropic drug	1.33	0.68 - 2.61
Both	1.32	0.61 - 2.86
Primary diagnosis at the initial visit was psychological problem (ICPC-2, chapter P)	0.35	0.19 - 0.67

Logistic regression analysis. ICPC2: International Classification of Primary Care, version 2; CI: confidence interval.

0.96. Of the 172 patients who were prescribed psychotropic drugs, the category was hypnotics for 88 patients (51.2%), anxiolytics for 67 patients (39.0%), and antidepressants for 60 patients (34.9%). Of 88 patients who were prescribed hypnotics, 49 patients were prescribed ORAs, 24 were prescribed BZDs, 10 were prescribed MRAs, and nine were prescribed Z-drugs. The most prescribed Kampo was hangekobokuto (36 patients), followed by yokukansan or yokukansankachimpin-hange (30 patients). Both Kampo and psychotropic drugs were prescribed for 42 patients (24.4%).

Of 165 patients who were receiving treatment at 6 months, 146 (88.5%) patients received a prescription. One hundred thirteen patients (68.5%) were prescribed psychotropic drugs.

Discussion

The most common ICPC-2 disease category for the chief complaint was psychological problem, comprising 69.2% of new patient visits. Psychological problems (ICPC-2, category P) accounted for 84.1% of primary diagnoses at the initial visit. The proportion of patients who dropped out of treatment was 39.2%. The dropouts were less likely to occur patients with primary diagnosis of psychological problems.

Compared with patients who were receiving treatment at 6 months or ended treatment by consensus, multivariate analysis revealed that patients with a diagnosis of a psychological problem at the initial visit were less likely to drop out. Common reasons for dropout include self-perceived clinical improvement and dissatisfaction with treatment [19, 20]. It is possible that the patients dropped out because their symptoms had decreased, but it is also possible that they discontinued their visits due to dissatisfaction with treatment. Patient's beliefs about the nature of a health problem influences service use and satisfaction [21]. Considering PSIM as recognized as mental health service in Japan, it is possible that patients presented

PSIM because they expect their problems to be explained as psychological nature. This means when their condition was not explained as psychological problems, they dissatisfied the consultation and dropped out. It is necessary to evaluate whether appropriate care is being provided, especially patients with diagnosis of non-psychological problems.

Psychological problems comprised 69.2% of chief complaints for new patient visits. Most patients expected to consult PSIM for psychological symptoms. On the other hand, 30.8% of patients presented with only non-psychological symptoms. These patients might have expected an interaction between somatic symptoms and psychological problems to be identified, or this was suggested to them. When a family physician works in PSIM, they need clinical skills related to both psychological problems and psychosomatic illness.

The common non-psychological chief complaints were palpitations, headache, shortness of breath, and dizziness. These symptoms were similar to physical symptoms reported in studies that investigated all physical symptoms among new patients in PSM outpatient clinics at a tertiary care university-affiliated hospital and secondary hospital, respectively [22, 23].

Psychological problems (ICPC-2, chapter P) accounted for 84.1% of primary diagnoses at the initial visit. The most common primary diagnosis at the initial visit was P02: acute stress reaction (including adjustment disorder), followed by P76: depressive disorder, and P74: anxiety disorder/anxiety state. A previous study of primary care patients in the UK, Norway, and the Netherlands reported that 7.6-18.6% of primary care patients were diagnosed with a psychological problem (ICPC-2, chapter P) [2, 24, 25]. A study from the department of PSIM at a Japanese university hospital reported that 47.2% of outpatients were diagnosed as having depression or anxiety and 36.7% of outpatients were diagnosed as having a psychosomatic problem [26]. We assume that more patients diagnosed with a psychological problem visit PSIM clinics in local cities than general practices or departments of PSIM at

university hospitals.

The distribution of psychological diagnosis in our study sample were similar to those in general practice in Norway [25]. Both studies revealed common diagnosis was depressive disorder, acute stress reaction and anxiety disorder. When family physicians manage psychological problems, they need to have specific clinical skills for these diseases.

The proportion of patients who were prescribed psychotropic drugs increased from 45.6% at the initial visit to 68.5% at 6 months. A descriptive analysis of Dutch primary care patients during 2011 - 2016 reported that 60% of primary care patients who were diagnosed with a psychological problem using ICPC-2 codes were prescribed psychotropic drugs [24]. The most common category of psychotropic drugs was antidepressants, followed by anxiolytics and hypnotics [24]. Primary care physicians prefer a watchful waiting approach and consider psychotherapy more suitable than psychotropic drugs for mild psychiatric disease [27, 28]. We hypothesized that family physicians are more likely to choose psychotherapy at the initial visit or that family physicians were cautious about prescribing psychotropic drugs.

In our study, ORAs were the most commonly prescribed hypnotics. A previous study based on Japanese claims data for all specialties in 2012 - 16 reported that the most commonly prescribed hypnotics were BZDs; ORAs were far less common [29]. Guidelines for insomnia currently recommend not using BZDs as the first choice [30]. The family physicians in our study seemed to be aware of appropriate BZD use and chose ORAs as the first hypnotic.

Kampo was prescribed for 29.2% of patients at the initial visit. Although there are no exactly comparable studies, Kampo has been recently used for functional disorders, uncertain conditions, or psychological problems [31, 32]. Our results suggest that Kampo is a treatment choice in those situations.

The rate of referral to mental health specialists was 16.4% in our study. There are limited studies investigating referral rates from PSIM clinics. It has been reported that the rate of referrals from general practice to mental health specialists ranges from 8% to 39.8% [33, 34]. Although more patients in our study were diagnosed as having a psychological problem than in general practice, the family physicians in our study seemed to be able to provide care expected from primary care physicians.

On the other hand, 39.2% of patients dropped out of treatment. The dropout rate was 11.1% to 54.0% in patients who received treatment for mental health problems in primary care at 1 year [13, 17]. The median number of visits for patients who dropped out was 2. It has been reported that dropouts are more likely to occur within two visits [12]. Physicians should be aware to prevent dropout especially at the time of the first or second visits.

Limitations

Our study had several limitations. First, our study design was a descriptive study and patient data were obtained from a clinic located in a small city, where there is a limited number of psychiatric hospitals or clinics. The results might be different in larger study samples and other areas where patients can easily

access a psychiatrist or psychologist. Second, our appointment policy might have influenced patient characteristics. Third, the diagnostic accuracy for a psychological problem might be insufficient compared to the accuracy of diagnosis by psychiatrists. Fourth, patients with alcohol problems were not included in our study.

Conclusions

Sixty-nine percent of patients who presented to a PSM clinic operated by Japanese family physicians had psychological chief complaints and 84% of patients were diagnosed with a psychological problem. In countries where the family physician's role is not widely recognized, the general public might consult family physicians for psychological problems more readily if it was clarified that family physicians can address both physical and psychological problems. Patients with a diagnosis of a psychological problem at the initial visit were less likely to drop out. Further studies are needed to evaluate disease severity, reasons for dropping out, long-term outcomes, differences in patient characteristics, and whether PSIM was declared or not.

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Financial Disclosure

None to declare.

Conflict of Interest

All authors report no conflict of interest.

Informed Consent

Informed consent has been obtained in the form of opt-out.

Author Contributions

NK and HY contributed to collecting and analyzing the data. NK drafted the manuscript. All authors contributed to the designing of the survey and provided critical review and approved the final manuscript.

Data Availability

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

Abbreviations

PSM: psychosomatic medicine; PSIM: psychosomatic internal medicine; KCF: Kitaibaraki Center for Family Medicine; BZDs: benzodiazepines; MRAs: melatonin receptor agonists; ORAs: orexin receptor antagonists; ICPC-2: International Classification of Primary Care, version 2

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