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Background

- The basic concept of general practice was introduced into China in 1980s.
- In 1989, the Mainland China began to study the service and teaching model of general practice in urban areas.
- The research and practice of community health care in the urban areas of China have developed since 1996. In recent years, the development of general practice in Mainland China has achieved some achievements.
- However, there are still some shortcomings in the rural areas of general practice, such as the insufficient number and poor quality of general practitioners . Training qualified general practitioners for rural areas is a crucial task in the development of general practice.

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Background

- General practitioner training model of Mainland China was determined in "Guidance of State Council on the establishment of general practitioners system" on July 2011.
- Objective model/Mainstream model: **5+3 model**
also named: General practitioners standardized training, general practice residents training
Object: Training qualified general practitioners
- Model in the transition period
 - (1) **3+2 model** for underdeveloped rural areas
 - (2) **On-job training**

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Background

- The objective of this study:
 1. Describe patients' reasons for encounter (RFE) and health problems managed by GPs in the rural areas of Beijing to provide evidences for health services planning and GPs training.
 2. Provide reference for other provinces on GPs training in rural areas.

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Methods

Questionnaire survey was used in this study.

- 1. Questionnaire design**
 - The questionnaire was self-designed, including patients' information, reasons for encounter(RFEs), health problems, interventions and the consultation length.
 - The collected RFEs and health problems was coded with ICPC-2
- 2. GPs training**
 - The GPs were trained before the beginning of the study in terms of the purpose and contents of this survey, specifications of recording forms, the ICPC-2 and its principles on coding.

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Methods

3. Sampling method

- On the first stage, 6 of 10 suburban districts in Beijing were selected randomly as study sites.
- On the second stage, 14 rural CHSCs in these study sites were selected by purposive sampling method.
- On the third stage, 100 GPs who met the following inclusion criteria were invited to participate in this survey: (1) worked in this center for 5 years or above, (2) obtained the medical license of practicing doctor, (3) obtained certificates of general practice training, and (4) are now undertaking the diagnosis and treatment work in clinical practice.

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Methods

- The investigation began on December 8, 2014. Each participating GP was required to record the details of his/her consecutive 100 patients' encounters during or after the consultation with the questionnaire.

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Methods

4. Statistical analysis

- Epidata 3.0 was used to establish the database and double-entry was performed by two postgraduates in our research team. All data analyses were carried out in SPSS for Windows 22.0.
- Descriptive statistics were employed to describe the number, distribution and rank of patients' RFE and health problems.

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Results

The characteristics of participating GPs (Table 1)

GPs characteristic	N/%	GPs characteristic	N/%
Sex		Final education level	
Male	41	University	68
Female	59	Senior college	29
Age group		Junior college or secondary school	3
<35 years	57	Years in current rural CHSCs	
35-44 years	22	5-10 years	15
45-54 years	2	10-19 years	39
55+ years	19	≥ 20 years	46

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Results

Patient Characteristics (Table 2)

Patient Characteristics	N (%)	Patient Characteristics	N (%)
Sex		Medical insurance location	
Male	4746 (47.6)	Beijing	9354 (97.6)
Female	5235 (52.4)	Other provinces	230 (2.4)
Age groups		Is it the first time to this center?	
0-14 years	307 (3.1)	Yes	689 (7.1)
15-24 years	221 (2.2)	No	9046 (92.9)
25-44 years	1802 (18.1)	Whether sign contracts with the GP team?	
45-59 years	3613 (36.3)	Yes	5892 (60.7)
60 years or above	4014 (40.3)	No	3807 (29.3)

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Results

Numbers of RFEs and health problems per encounter

There were 13,705 RFEs and 15,460 health problems from 10,000 encounters (Table 3).

Number of RFEs	Number of encounters	%	Number of health problems	Number of encounters	%
No RFE	0	0	No disease	418	41.8
One RFE	7029	70.3	One problem	5914	59.1
Two RFEs	2303	23.0	Two problems	2424	24.3
Three RFEs	602	6.0	Three problems	866	8.7
Four RFEs	66	0.7	Four problems or above	378	3.8
Total	10,000	100	Total	10,000	100

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Results

The frequencies of RFE according to the chapters in the ICPC- 2 (Table 4)

ICPC-2 chapter	RFE frequencies	%	ICPC-2 chapter	RFE frequencies	%
R respiratory	3498	47.9	P psychological	117	1.6
K circulatory	2028	27.8	S skin	79	1.1
L musculoskeletal	1065	14.6	F eye	79	1.1
T endocrine, metabolic and nutritional	880	12.1	B blood, blood forming organs, lymphatics, spleen	32	0.4
D digestive	806	11.0	Y male genital system	32	0.4
A general and unspecified	546	7.5	H ear	22	0.3
N neurological	463	6.4	Z social problems	36	0.1
U urology	186	2.6	W pregnancy, childbirth, family planning	3	0.0
X female genital system and breast	161	2.2	Total	13,705	100

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Results

The frequencies of RFE and health problems, according to the chapters in the ICPC- 2 (Table 5)

ICPC-2 chapter	Health problem frequencies	%	ICPC-2 chapter	Health problem frequencies	%
K circulatory	5563	36.0	P psychological	148	1.0
R respiratory	3846	24.9	N neurological	126	0.8
T endocrine, metabolic and nutritional	1995	12.9	F eye	110	0.7
L musculoskeletal	1418	9.2	Y male genital system	80	0.5
D digestive	1014	6.6	B blood, blood forming organs, lymphatics, spleen	51	0.3
A general and unspecified	476	3.1	W pregnancy, childbirth, family planning	23	0.2
U urology	212	1.4	H ear	19	0.1
X female genital system	201	1.3	Z social problems	0	0
S skin	178	1.2	Total	15,460	100

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Results

The top 20 RFEs in descending order of frequency (Table 6)

No.	Patient reason for encounter	Frequencies	%	Cumulative %	No.	Patient reason for encounter	Frequencies	%	Cumulative %
1	Cough	1,841	13.4	13.4	11	Prescription refill for lipid disorder	189	1.4	58.8
2	for hypertension	1,685	12.3	25.7	12	Heartburn	186	1.4	60.2
3	Throat symptom/complaint	1,101	8.0	33.7	13	Back complaint*	177	1.3	61.5
4	Prescription refill for diabetes	785	5.7	39.4	14	Sleep disorders	149	1.1	62.6
5	Sneezing/nasal congestion	772	5.7	45.1	15	Headache	143	1.0	63.6
6	Fever	440	3.2	48.3	16	Knee symptom/complaint	142	1.0	64.6
7	Vertigo/dizziness	388	2.8	51.1	17	Check up- all*	124	0.9	65.5
8	Sputum/phlegm abnormal	385	2.8	53.9	18	Flatulence/gas/ belching	113	0.8	66.3
9	Prescription refill for ischaemic heart disease	249	1.8	55.7	19	Urinary frequency/urgency	107	0.8	67.1
10	Abdominal pain*	231	1.7	57.4	20	Palpitations/ awareness of heart	106	0.8	67.9

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Results

The top 20 RFEs in descending order of frequency (Table 7)

No.	Health problems	Frequencies	%	Cumulative %	No.	Health problems	Frequencies	%	Cumulative %
1	Hypertension*	3529	22.8	22.8	11	Acute bronchitis/bronchiolitis	362	2.3	76.2
2	Upper respiratory infection, acute	2287	14.8	37.6	12	Back syndrome*	236	1.5	77.7
3	Diabetes-all*	1511	9.8	47.4	13	Tonsillitis, acute	202	1.3	79.0
4	Ischaemic heart disease*	1167	7.6	55.0	14	Respiratory infection, other	201	1.3	80.3
5	Cerebrovascular disease*	677	4.4	59.4	15	Chronic bronchitis	147	1.0	81.3
6	Osteoarthritis*	604	3.9	63.3	16	Neck syndrome	130	0.8	82.1
7	Lipid disorder	421	2.7	66.0	17	Osteoporosis	127	0.8	82.9
8	No disease	418	2.7	68.7	18	Oesophagus disease	122	0.8	83.7
9	Stomach function disorder	414	2.7	71.4	19	Urinary tract infection*	121	0.8	84.5
10	Laryngitis/tracheitis, acute	387	2.5	73.9	20	Peptic ulcer*	118	0.8	85.3

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Results

The RFEs of patients with common health problems

- To understand how RFEs related to health problems, we described the top 5 RFEs of patients with these three problems.
- A total of 5,914 patients had only one health problem, of which **hypertension, acute upper respiratory infection, and diabetes** were the top three diagnoses. We list the top 5 RFEs in the top three health problems.
- The results found that symptoms were main RFEs in acute upper respiratory infection, while reasons like prescription refill and follow up were dominant in hypertension and diabetes.

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Results

The RFEs of patients with common health problems (Table 8)

Acute upper respiratory infection	N	%
Cough	581	36.5
Throat symptom/complaint	327	20.5
Sneezing/nasal congestion	297	18.6
Fever	182	11.4
Request for medications	85	5.3
Total top 5	1472	92.3
Total	1593	100

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Results

The RFEs of patients with common health problems (Table 9)

Hypertension	N	%
Prescription refill for hypertension	765	66.8
Follow-up encounter for hypertension	175	14.8
Vertigo/dizziness	107	9.0
Fear of hypertension	13	1.1
Cardiovascular symptom/complaint, other	11	0.9
Total top 5	1071	92.6
Total	1184	100

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Results

The RFEs of patients with common health problems (Table 10)

Diabetes	N	%
Prescription refill for diabetes	369	78.5
Follow-up encounter for diabetes	68	14.5
Excessive thirst	13	2.8
Excessive appetite	5	1.1
Urinary frequency/urgency	4	0.9
Total top 5	459	97.7
Total	470	100

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Discussion

- The results showed that GPs in rural areas served patients from all age groups. The RFEs and health problems were distributed in almost all organs and body systems. The health problems managed by GPs included both acute and chronic problems. These reflected the comprehensive characteristic of general practice.
- However, psychological problems in this study were not as common as other populations. One of the explanations might be the lack of knowledge on psychological symptoms and problems for patients and GP in rural areas. In ICPC-2, chronic alcohol abuse and tobacco abuse belong to psychological chapter. However, almost no one came the CHSC for these reasons and no related diagnoses were made by GPs. Moreover, it might be related to different cultural backgrounds.
- This study described top 20 RFEs and health problems, which can provide reference for GPs training in rural areas.

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Discussion

- Like other populations, chronic non-communicable were common problems managed by rural GPs. Corresponding to a high proportion of chronic diseases, prescription refill was a very common RFE in this study. This finding was consistent with a study conducted in urban areas of Beijing. It revealed a special phenomenon that GPs both in urban and rural areas spent a large amount of time on prescription refill for patients. It may be related to the health system of China. Whether this phenomenon limits the practice of GPs will be further studied.

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Discussion

- The results presented us the variation RFEs between various health problems. Symptoms were the main RFEs in acute diseases, while prescription refill and follow up were main RFEs in chronic diseases. In addition, even patients with the same disease may have different reasons for encounter. Therefore, the GPs should provide services for patients based on their RFEs.

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Discussion

- This study presented the reasons for encounter and health problems in general practice of rural areas of Beijing with a large sample size, which could provide important evidence for other provinces on GPs training.
- However, there were limitations in this study. For example, this survey was conducted in winter season and the short duration of this investigation could not provide a longitudinal data. A high proportion of URTI may be related to the season to some extent. To reduce this bias, we plan to collect data of other seasons in the future study.

