

A Trial of the Dartmouth COOP Charts in Kurashiki Station Clinic

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ABSTRACT. Measurement of functional status of the patient is useful in ambulatory clinic in primary care.^{1,2)} A field test of the Dartmouth COOP charts (questionnaires) was performed on 144 patients aged 18 and over with chronic diseases who were visiting for either the second or subsequent time. As these charts produce a comprehensive picture of functional status, they are useful to the patient as well as the physician.

Key words : ambulatory clinic — primary care — questionnaires — health problems — functional status

The affiliate hospital of Kawasaki Medical School in Japan first established the Department of Family Practice eight years ago. Six years ago, they opened a walk-in clinic, without facilities for admission, in Kurashiki City, 6 kilometers from the affiliate hospital. The number of patients visiting for the first time exceeds 10,000 and 70 to 100 patients consult two physicians daily. A total of 8 physicians bear the workload. The distribution of all patients by age and sex is given in Fig. 1. The range of medical care covers almost all primary care areas including internal medicine, ambulatory surgery, orthopedics, dermatology, pediatrics, total health care, and advice on life style such as diet and physical exercise. Patients requiring admission to the hospital are treated by both the clinic staff and other specialists.

MATERIALS AND METHODS

A field test of the Dartmouth COOP charts was performed on 144 patients aged 18 and over with chronic diseases who were visiting for either the second or subsequent time.

Patients independently completed 9 charts in which they rated physical condition, emotional condition, daily work, social activities, pain, change in condition, overall condition, social support and quality of life (Fig. 2). The charts were completed prior to consultation with the physician and only a small

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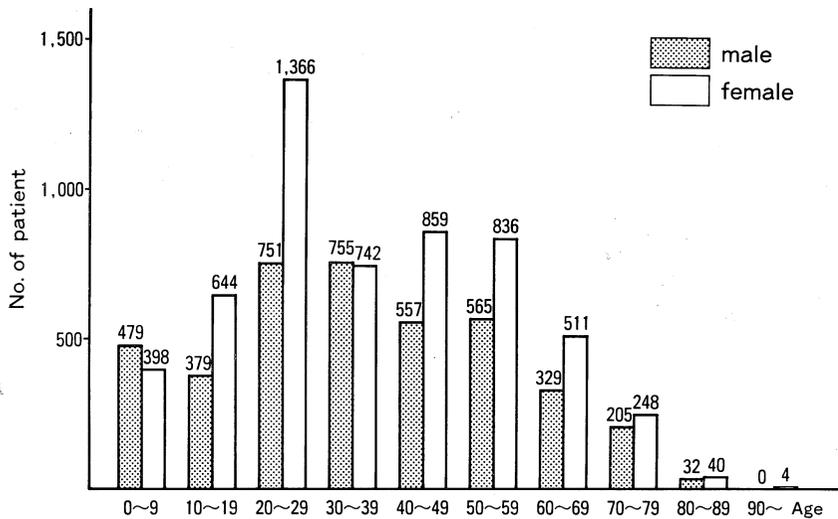


Fig. 1. Distribution of age and sex of all patients

number of aged people required help with the charts. Correlations between scores on the Dartmouth COOP charts and number of health problems, number of process items and number of drugs prescribed were assessed.

RESULTS

The distribution of the study group of patients by age and sex is given in Fig. 3. In accord with the total patient population (Fig. 1) the number of females exceeded that of males. Table 1 details the health problems found in the study group, in rank order of frequency. A total of 384 problems were recorded for an average of 2.7 problems per patient. As expected for primary

TABLE 1. Health problem and its frequency

	No. of Cases	% (per 144 cases)
Hypertension	53	36.8
Diabetes Mellitus	30	20.8
Iron Deficiency Anemia	24	16.7
Obesity	20	13.9
Hemorrhoid	17	11.8
Low Back Pain	16	11.1
Gastro-duodenal Ulcer	15	10.4
Chronic Hepatitis	13	9.0
Gout	8	5.6
Cholelithiasis	8	5.6
Arthritis Deformans	8	5.6
Osteoporosis	8	5.6
Heart Disease	7	4.9
Total	384	(2.7 problems) (per one patient)

PHYSICAL CONDITION

During the past 4 weeks . . .
 What was the most strenuous level of physical activity you could do for at least 2 minutes?

Very heavy, e.g. Run, fast pace Carry heavy bag of groceries upstairs		1
Heavy, e.g. Jog, slow pace Climb stairs at moderate pace		2
Moderate, e.g. Walk, fast pace Garden, easy digging Carry heavy bag of groceries		3
Light, e.g. Walk, regular pace Golf or vacuum Carry light bag of groceries		4
Very light, e.g. Walk, slow pace Drive car Wash dishes		5

1

DAILY WORK

During the past 4 weeks . . .
 How much difficulty did you have doing your daily work, both inside and outside the house, because of your physical health or emotional problems?

No difficulty at all		1
A little bit of difficulty		2
Some difficulty		3
Much difficulty		4
Could not do		5

3

PAIN

During the past 4 weeks . . .
 How much bodily pain have you generally had?

No pain		1
Very mild pain		2
Mild pain		3
Moderate pain		4
Severe pain		5

5

OVERALL CONDITION

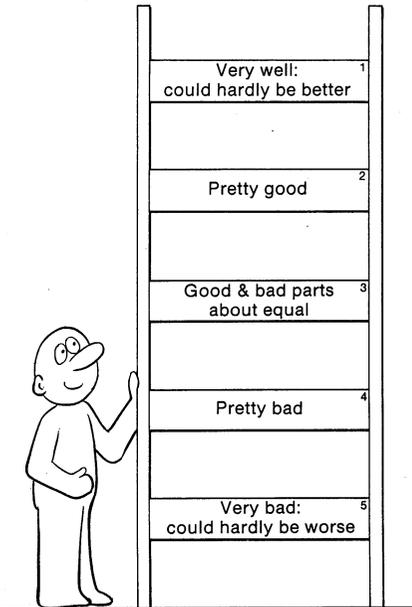
During the past 4 weeks . . .
 How would you rate your overall physical health and emotional condition?

Excellent		1
Very good		2
Good		3
Fair		4
Poor		5

7

QUALITY OF LIFE

How has the quality of your life been during the past 4 weeks? i.e. How have things been going for you?



Very well: could hardly be better	1
Pretty good	2
Good & bad parts about equal	3
Pretty bad	4
Very bad: could hardly be worse	5

9

EMOTIONAL CONDITION

During the past 4 weeks . . .
 How much have you been bothered by emotional problems such as feeling unhappy, anxious, depressed, irritable?

Not at all		1
Slightly		2
Moderately		3
Quite a bit		4
Extremely		5

2

SOCIAL ACTIVITIES

During the past 4 weeks . . .
 To what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors or groups?

Not at all		1
Slightly		2
Moderately		3
Quite a bit		4
Extremely		5

4

CHANGE IN CONDITION

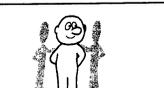
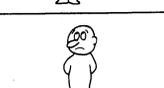
How would you rate your physical health and emotional condition now compared to 4 weeks ago?

Much better	++	1
A little better	+	2
About the same	±	3
A little worse	-	4
Much worse	--	5

6

SOCIAL SUPPORT

During the past 4 weeks . . .
 Was someone available to help you if you needed and wanted help? For example if you
 — felt very nervous, lonely, or blue
 — got sick and had to stay in bed
 — needed someone to talk to
 — needed help with daily chores
 — needed help just taking care of yourself

Yes, as much as I wanted		1
Yes, quite a bit		2
Yes, some		3
Yes, a little		4
No, not at all		5

8

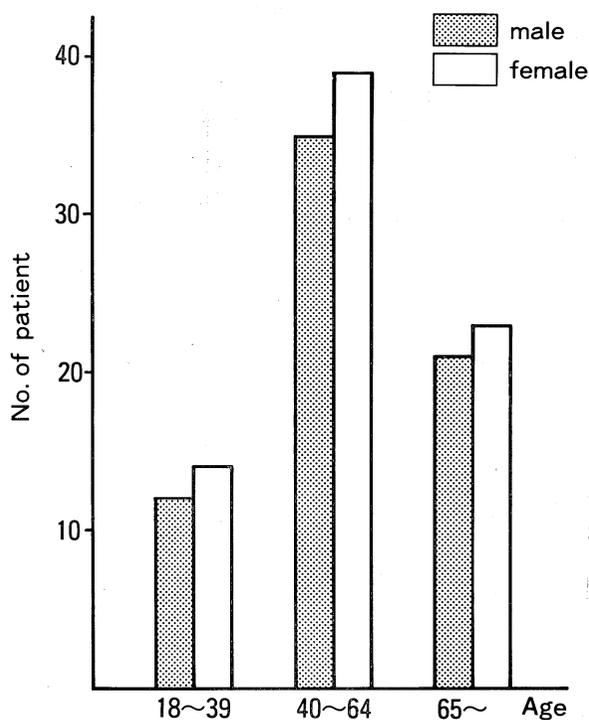


Fig. 3. Distribution of age and sex of the study group

TABLE 2. Correlations between number of health problem and chart score

COOP Chart	No. of Health Problem	
	1~2 (N=71)	3~ (N=73)
1. Physical Condition	2.20	2.36
2. Emotional Condition	2.35	2.28
3. Daily Work	1.92	2.22
4. Social Activities	1.93	1.90
5. Pain	2.11	2.11
6. Change in Condition	3.17	2.79
7. Overall Condition	3.06	2.99
8. Social Support	1.61	1.82
9. Quality of Life	2.42	2.62

care adult patients, hypertension, diabetes mellitus, iron deficiency anemia and obesity were most frequent.

The distribution and mean scores of the 9 Dartmouth COOP charts is detailed in Fig. 4. Lowest mean scores (low scores indicate less impairment) were attained for social activity and social support (1.97 and 1.73, respectively) while assessment of overall condition and quality of life (3.02 and 2.57, respectively) received the poorest evaluations.

Chart scores of patients with one or two health problems (N=71) were compared with those of three or more (N=73). Patients with fewer health

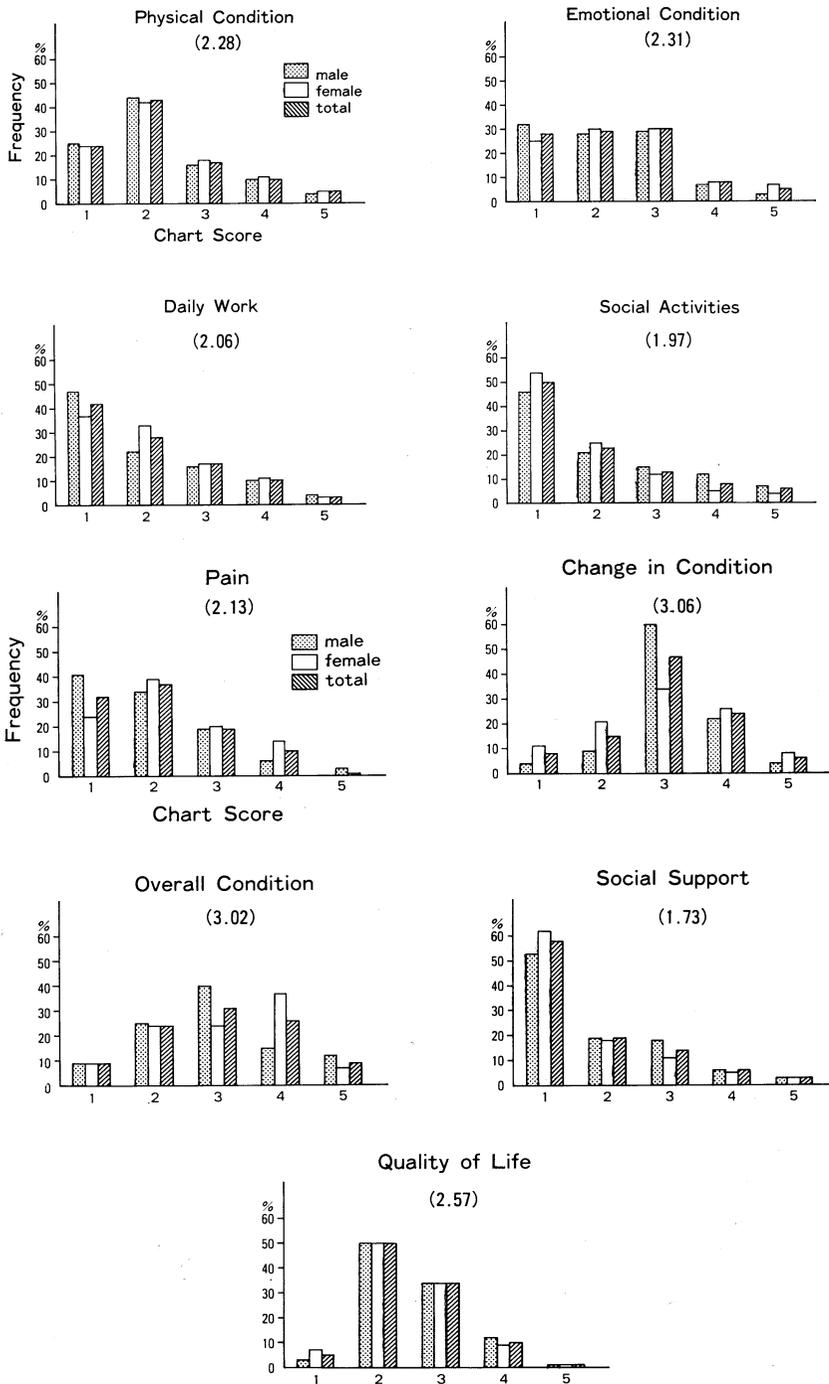


Fig. 4. Frequency of chart score

problems rated physical condition, daily work status, social support and quality of life better and described a more favorable change in condition than patients with three or more health problems. Differences in other chart scores were negligible. Thus, it appears that an increased number of health problems is inversely related to functional status assessments (Table 2).

IC-Process-PC^{3,4} was used to record the process of medical care. Almost half of the patients received a clinical laboratory test although some patients received two or more (Table 3). Because of the large number of chronic

TABLE 3. Process in patient care and its frequency

Process	No. of Cases	%
Clinical Laboratory	174	49.3
Diagnostic Imaging	47	13.3
Other Diagnostic Procedure	25	7.1
Therapeutic Procedure	9	2.5
Counselling & Health Education	94	26.6
Referral to a Specialist	4	1.1
Total	353	100

TABLE 4. Correlations between number of process and chart score

COOP Chart	No. of Process	
	0~3 (N=83)	4~ (N=61)
1. Physical Condition	2.12	2.48
2. Emotional Condition	2.23	2.18
3. Daily Work	1.96	2.23
4. Social Activities	1.81	2.13
5. Pain	2.08	2.18
6. Change in Condition	2.92	3.16
7. Overall Condition	2.88	3.28
8. Social Support	1.59	1.80
9. Quality of Life	2.45	2.62

diseases in our patient sample counselling and health education was also a frequent medical intervention. The second clinic visit often occurred soon after the first and the items health education (previously recorded) may therefore be underrepresented. Chest X-ray, upper gastrointestinal series, and abdominal echography were the most frequent tests included in the diagnostic imaging category.

Functional status also appeared to correlate with the number of process items given to patients (Table 4). With the exception of emotional condition, poorer functional status was noted in patients who received 4 or more tests as compared with those who received less than 4. The difference between scores on emotional function were negligible between the two groups.

With the exception of those charts which measures social function, there was a linear relationship between function and the number of medications prescribed for patients (Table 5). Those patients taking 4 or more drugs

TABLE 5. Correlations between number of drug and chart score

COOP Chart	No. of Drug		
	0~1 (N=55)	2~3 (N=47)	4~ (N=42)
1. Physical Condition	2.95	2.26	2.05
2. Emotional Condition	3.20	2.43	2.02
3. Daily Work	2.15	2.11	1.88
4. Social Activities	2.13	1.72	2.02
5. Pain	2.24	2.11	1.95
6. Change in Condition	3.40	2.87	1.62
7. Overall Condition	3.24	2.91	2.86
8. Social Support	1.51	1.74	1.83
9. Quality of Life	2.96	2.43	2.55

reported better physical and emotional condition, daily work, less pain, improvement in condition and better overall condition and quality of life than those taking less than 4 drugs; yet our clinic physicians attempt to reduce polypharmacy and almost none of the study group were receiving 6 or more drugs. Improved function could be the result of effective drug therapy or may relate to a longer period of attendance at the clinic.

SUMMARY

1. The Dartmouth COOP charts are capable of self-administration by patients in a brief period of time.
2. Cost of chart administration is minimal.
3. The picture aided questions were easily understood by our patients.
4. The charts appeared to facilitate doctor-patient communication.
5. The 9 charts produce a comprehensive picture of functional status.
6. Physicians in ambulatory clinics frequently neglect assessment of functional status. These charts may be better administered on the second visit rather than the first because the required medical tasks at the second visit are frequently less than those of the first.
7. The information on change in functional status is useful to the patient as well as the physician.
8. Physicians are able to ascertain differences between their own assessment of functional status and that of the patients.

Our physicians noted two problems with the Dartmouth COOP chart.

1. The chart assessing overall condition appears to be superfluous because its content is contained in the other charts.
2. A few repeat administrations produced different scores. It is uncertain whether this reflects change in condition or inadequate reliability of the method.

Acknowledgment

This paper was presented at the Workshop on Functional Status Measurement in Primary Care by the WONCA* Standing Committee on International Classification in Calgary, Canada, in October, 1988. (*WONCA: World Organization of National Colleges, Academies, and Academic Associations of General Practitioners/Family Physicians)

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