

〔報告〕

Relationship between the Subjective Assessment of Personal Health and Annual Medical Check-ups for Residents of Toon City, Ehime Prefecture

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Summary

The objective of this survey was to evaluate the results of health promotion programs in Toon City. Two thousands residents of Toon City ($N=2000$) between the ages of 20 and 64 were selected at random, and distributed with a questionnaire that dealt with family structure, health condition, subjective assessment of personal health and interest in undergoing annual medical check-ups. There were 834 respondents to the questionnaire. For men, there was no statistically significant relationship between the level of subjective assessment of personal health and whether or not they underwent annual medical check-ups. In contrast, for women, there was a statistically significant difference between the level of subjective assessment of personal health and whether or not they underwent annual medical check-ups ($p=0.03$). Women who had a high level of subjective assessment of personal health tended to receive annual medical check-ups more frequently than those who had a low level of subjective assessment. We suggest that it is not sufficient that residents consider themselves to be in good health, and that it is necessary to promote regular health examinations for the early detection and prevention of lifestyle-affecting disorders. The key point to increasing the rate that retired men undergo medical check-ups is to find concrete methods of maintaining men's motivation in looking after their own health and to analyze their subjective assessment of personal health.

Key Words: Annual medical check-ups, Health promotion, Subjective assessment of personal health

要 旨

この調査の目的は、東温市の健康増進活動を評価するためである。アンケートは、東温市在住の20歳から64歳の2000人に無作為に配布され、内容は家族構成、健康状態、主観的健康感と健康診断受診状況である。834人から回答を得た。男性においては、主観的健康感尺度と健康診断受診の有無について統計学的有意差が認められた ($p=0.03$)。一方、女性は統計学的有意差が認められなかったが、主観的健康感尺度が高い人が、主観的健康感の低い人に比較して、健康診断を受診していた。われわれは、主観的健康感において住民が「まあ健康」と考えていることは不十分であり、それら住民に対して、生活習慣病の早期発見と予防のための定期的健康診断受診をすすめることが必要であると考えた。健康診断をつける退職男性が彼ら自身の健康状態に関心をもつ動機を維持する具体的方法と男性の主観的健康感を解析することが重要な鍵と思われる。

キーワード: 健康診断, ヘルスプロモーション, 主観的健康感

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Introduction

The current annual examination consists of (1) occupational medical check-ups under the Labor Law and (2) residential medical check-ups under the Health Promotion Law¹⁾. These medical check-ups are designed to be carried out on an annual basis.

In principle, annual medical examinations are compulsory under the Labor Law, but in practice only 70% people undergo an examination²⁾. The Health Promotion Law examination is not compulsory and only 40% people receive a check-up³⁾. The most often cited reasons for not undergoing an examination are lack of time and inconvenience. Achieving good health is primarily an individual issue, based on a person's subjective view of what they consider "healthy" to be.

However in constructing a local government system to promote public health it is essential that support is provided to encourage individuals to make an effort to maintain good health. Based on the Health Promotion Law, it is hoped that people will receive a check-ups on an annual basis.

Toon City publishes a bulletin about medical check-ups every year, for the purpose of increasing general health awareness and encouraging a greater number of people to receive check-ups.

The Ministry of Health, Labour and Welfare set out in its National Health Promotion for the 21st Century (Health Japan 21) policy⁴⁾ that local governments should develop necessary residential health promotion programs for the purpose of increasing and maintaining the health of citizens throughout their lives. The Ministry also established a 10-year goal covering the period 2001 to 2010 that consisted of concrete numerical targets. The goal of Health Japan 21 is to advance comprehensive and unified measures for national health promotion, starting with the integration of several health service organization⁵⁾. For example, local government public health centers to develop and promote an effective nationwide health promotion policy.

Health Japan 21 also aims to advance and stimulate health promotion based on the particular needs of citizens in all segments of society⁶⁾.

In order to develop and effectively implement a health promotion program, it is essential that public health specialists are well informed about the health

conditions and needs of the particular area they are visiting, and that they select a public health issue relevant to the people of that area, establish concrete objectives for any programs to be implemented, and share health information grounded on firm medical science.

To ascertain whether these objectives have been achieved, it is necessary to conduct an appropriate evaluation of the activities within each program. Also, subsequent health promotion planning should reflect these results.

The first objective of this survey was to evaluate the results of health promotion programs such as (1) Health Promotion Shigenobu-cho 2001 "Kenkou Shigenobu 2010"; and (2) Well-being Kawauchi-cho 21 "Ikiiki Kawauchi 21" over a period of ten years. The second objective of this survey was to provide the basis for planning the new health promotion policy for Toon City, which was formed when Shigenobu-cho and Kawauchi-cho merged in 2005.

Methods

1. Ethical considerations in relation to the Act on the Protection of Personal Information.

We received permission from Ehime University's Ethical Committee of Etiology to access the database of electronically stored personal information maintained by the local government of Toon City for our study. The second author (Kanako Yamauchi) applied to the Ministry of Internal Affairs - Communications' Bureau of Statistics for permission to access the electronically stored personal information maintained by Toon City.

The Ministry of Health, Labour and Welfare granted permission to make use of publicly held information relating to mortality and morbidity, based on the dual requirements that the researcher, Kanako Yamauchi, (1) was the recipient of a Grant-in-Aid for Scientific Research (Category C) from the Japan Society for the Promotion of Science (Project number 21590696, "Factors affecting the mental health, ADL and QOL of elderly residents - a cohort study over a 13 year period." and (2) had Research Permission from Ehime University's Ethical Committee of Etiology.

2. Study design and participants

We selected 2000 people between the ages of 20 and 64 at random, and provided them with a questionnaire and a self-addressed envelope.

2-1 Questionnaire for subjective assessment of personal health

We asked respondents to make a subjective assessment of their personal health by asking the following question: - Q3 "Do you consider yourself to be in good health?" and asking the respondent to select one of the following responses: - (1) *Yes, I am in excellent health*, (2) *Yes, I am in good health*, (3) *No, I am not in good health*, and- (4) *No, my health is poor*.

2-2 Statistical analysis

For both men and women, the relationship between the level of subjective assessment of personal health and whether or not the respondent underwent annual medical check-ups was analyzed using Chi-square test.

Results

There were 834 respondents to the questionnaire. The total response rate was 41.7 percent.

1. Demographic characteristics

We carried out a questionnaire based on survey of family structure trends in Toon City (Table 1).

Our survey shows that, generally, families in Toon City consisted of 3 to 4 persons who live together.

Families with 5 or more people who live together were rare.

In analyzing people who live alone, by sex and age group, it was found that the group with the largest percentage living alone was men in their twenties. These figures were accounted for by men attending university or unmarried men working in local factories. The percentage of people who live alone decreased between young adulthood (between 20 and 29 years of age) and middle age (approximately 40 years of age).

Middle-aged people made up the smallest percentage of people who lived alone, however, after middle-age, the percentage increased again. We consider that this is attributable to children growing up and moving out from the home and to the death of a spouse.

2. Subjective assessment of personal health

(Table 2)

Overall, men and women answered, "Yes, I am in good health" to Q3 "Do you consider yourself to be in good health?" There was no appreciable difference between men and women in levels of sense of well being. However the percentage of women in their sixties who answered, "I am in excellent health" was twice as high as that of men in the same age bracket. Furthermore, the percentage of total respondents between the ages of 30 and 60 years who answered, "I am in good health" was approximately twice as high as the national average. On one hand, 30 % of men in their sixties answered either, "I am in excellent health"

Table 1 Family structure

Sex	Age group	Live alone	2 persons	3 persons	4 persons	5 persons	6 persons and more	Total
Men	20-29	12(14.0%)	11(12.8%)	29(33.7%)	23(26.7%)	9(10.5%)	2(2.3%)	86
	30-39	7(7.8%)	13(14.4%)	24(26.7%)	26(28.9%)	13(14.4%)	7(7.8%)	90
	40-49	2(2.1%)	11(11.5%)	19(19.8%)	35(36.5%)	16(16.7%)	13(13.5%)	96
	50-59	5(4.8%)	20(19.2%)	35(33.7%)	26(25.0%)	9(8.7%)	9(8.7%)	104
	60-65	6(7.8%)	37(48.1%)	20(26.0%)	9(11.7%)	1(1.3%)	4(5.2%)	77
Women	20-29	9(13.0%)	10(14.5%)	19(27.5%)	15(21.7%)	9(13.0%)	7(10.1%)	69
	30-39	8(9.9%)	9(11.1%)	21(25.9%)	32(39.5%)	9(11.1%)	2(2.5%)	81
	40-49	1(1.3%)	11(14.3%)	16(20.8%)	30(39.0%)	12(15.6%)	7(9.1%)	77
	50-59	5(4.9%)	39(38.2%)	29(28.4%)	21(20.6%)	4(3.9%)	4(3.9%)	102
	60-65	12(23.5%)	25(49.0%)	5(9.8%)	2(3.9%)	3(5.9%)	4(7.8%)	51

Table1 shows the number of respondents' family members who live together in the same household.

Table 2 Subjective assessment of personal health

Sex	Age group	Excellent health	Good health	Not in good health	Bad health	Total
Men	20-29	14 (16.7%)	61 (72.6%)	7 (8.3%)	2 (2.4%)	84
	30-39	13 (14.6%)	67 (75.3%)	8 (9.0%)	1 (1.1%)	89
	40-49	12 (12.6%)	69 (72.6%)	13 (13.7%)	1 (1.1%)	95
	50-59	11 (10.6%)	77 (74.0%)	12 (11.5%)	4 (3.8%)	104
	60-65	3 (3.9%)	51 (67.1%)	12 (15.8%)	10 (13.2%)	76
Women	20-29	14 (20.6%)	47 (69.1%)	5 (7.4%)	2 (2.9%)	68
	30-39	13 (16.0%)	58 (71.6%)	9 (11.1%)	1 (1.2%)	81
	40-49	10 (13.0%)	55 (71.4%)	10 (13.0%)	2 (2.6%)	77
	50-59	8 (7.8%)	76 (74.5%)	11 (10.8%)	7 (6.9%)	102
	60-65	6 (11.8%)	36 (70.6%)	6 (11.8%)	3 (5.9%)	51

Table 2 shows the respondents' answers of subjective assessment of personal health, classified according to sex and age.

or "I am not in good health", which was much higher than we expected. Taken as a whole, the number of female respondents from all age groups who answered "I am in good health" were twice as many as the national average, and in particular there was a large number of women in their sixties with a good sense of well being. The number of women who replied "I am not in good health" or "I am in satisfactory health" was the same as the national average.

For men, there was no statistically significant difference between the level of subjective assessment of personal health and the receipt of annual medical

Table 3 Percentage of respondents who received medical check-ups.

Sex	Age group	Yes	No	Total
Men	20-29	44 (51.2%)	42 (48.8%)	86
	30-39	58 (65.2%)	31 (34.8%)	89
	40-49	77 (80.2%)	19 (19.8%)	96
	50-59	76 (73.8%)	27 (26.2%)	103
	60-64	53 (69.7%)	23 (30.3%)	76
Women	20-29	36 (53.7%)	31 (46.3%)	67
	30-39	49 (61.3%)	31 (38.8%)	80
	40-49	52 (67.5%)	25 (32.5%)	77
	50-59	63 (61.8%)	39 (38.2%)	102
	60-64	32 (64.0%)	18 (36.0%)	50

Table 3 shows the percentage of respondents who received medical check-ups, classified into sex and age.

check-ups.

For women, there was a statistically significant difference between the level of subjective assessment of personal health and the receipt of annual medical check-ups ($p=0.03$).

3. Annual medical check-ups for residents in Toon City (Table 3)

With the exception of the 20-29 year age group, a high percentage of men (between 65 % and 75 %) received medical check-ups. For women, the percentage of respondents who underwent medical check-ups was approximately 65 %. Women in their twenties had the lowest rate of receiving medical check-ups. In Toon City, approximately only 10 % of female respondents in their twenties underwent medical check-ups.

4. Complete medical check-ups (NINGEN DOCK) (Table 4)

The percentage of male respondents who underwent a complete medical check-up (NINGEN DOCK) in a hospital increased with age up to the age of 60 years, after which the percentage began to decrease.

In comparing men and women in their fifties, a higher percentage of men underwent complete medical check-ups, however the difference was not statistically significant ($p=0.10$).

Table 4 Percentage of respondents who received complete medical check-ups.

Sex	Age group	Number of respondents	%	Total
Men	20-29	8	(9.3%)	86
	30-39	8	(8.9%)	90
	40-49	17	(17.7%)	96
	50-59	25	(24.0%)	104
	60-64	14	(18.2%)	77
Women	20-29	3	(4.3%)	69
	30-39	12	(14.8%)	81
	40-49	7	(9.1%)	77
	50-59	10	(9.8%)	102
	60-64	9	(17.6%)	51

Table 4 shows the percentage of respondents complete medical check-ups, classified into sex and age.

Discussion

Beginning in 2008, a new compulsory annual medical examination for people 40 years and over was introduced under the Health Promotion Law¹⁾. The components of the examination were decided by the Ministry of Health Labour and Welfare. From 2008 onwards, local governments have been obliged to provide this new medical check-up for all residents 40 years and over²⁾. Women who reported a high level of subjective assessment of personal health tended to undergo annual medical check-ups more frequently than those who reported a low level of subjective assessment.

The percentage of respondents who answered (1) *Yes, I am in excellent health*, was very low. For all age brackets and for both men and women, the greater percentage of people answered (2) *Yes, I am in good health*. Most respondents assessed themselves as being in good health. We surmise that the reason respondents answered (3) *No, I am not in good health*, or (4) *No, my health is poor*, is that they have been suffering from an underlying illness.

Men in their 20s, 30s, 40s and 50s received medical check-ups at their places of work under the auspices of the Occupational Health and Safety Law, while men 60 years of age and over underwent check-ups at public facilities under the National Health Promotion Law. The percentage of male respondents who underwent

a complete medical check-ups (NINGEN DOCK) in a hospital increased with age up to the age of 60 years, after that the percentage began to decrease.

Toon City is home to a number of large scale factories belonging to well-known manufacturers such as Panasonic and its subsidiaries. The factories have policies recommending that employees undergo complete medical check-ups (NINGEN DOCK) annually, and provide financial assistance towards the cost of the examinations. One possible explanation for the reason behind the high percentage of male respondents in their 50s receiving complete medical check-ups is that these respondents are factory employees. However, whilst the survey questionnaire asked about occupation it did not enquire into where the respondent worked and as a result we cannot confirm whether this connection exists.

The percentage of male respondents who underwent a medical check-ups under the Occupational Health and Safety Law decreased between the ages of 40 and 50 years. Further, for men in their fifties, the percentage of respondents who underwent a medical check-up under either under the Occupational Health and Safety Law or the National Health Promotion Law decreased. However, the percentage of respondents in their sixties who underwent a medical check-ups under the Health Promotion Law increased.

Regardless of the scheme under which the medical examinations were carried out, looking at all age groups, it could be seen that there was no appreciable difference between the rate at which men and women underwent medical check-ups, namely 65%-70%. This rate was higher than the average rate of Ehime prefecture (however, the rate of prefecture only represents check-ups under the Health Promotion Law), which was only 33 %³⁾.

However, approximately 50-60 percent of female respondents underwent medical check-ups under the Health Promotion Law. That is because most of the female respondents were homemakers who belonged to the National Health Insurance (Kokumin Kenko Hoken) scheme.

It is possible that the high percentage obtained in Toon City was the result of a selection bias and that the respondents who answered the questionnaire possessed a high level of health awareness. According to city records, the total percentage of residents who

undergo an annual medical check-ups under the Health Promotion Law is approximately 40 percent, and the rate at which residents undergo medical check-ups tends to decrease with their age. Although the rate at which residents undergo medical check-ups should ideally increase according to age, in Toon City the reverse was true.

The rate at which residents undergo medical check-ups should ideally increase according to age, however, in Toon city, the rate tends to decrease. We are of the view that the phenomenon of a decreasing rate of medical check-ups in Toon City is probably related to the fact that retired men who previously underwent medical check-ups at their place of work. It is not easy for them to continue to receive check-ups when they were administered at public facilities under the Health Promotion Law.

To encourage more people to have check-ups, Toon City runs direct mail campaigns, targeting people 40 years of age and over with slogans such as, “You should really have a check-up at least once every 5 years.” Letters are sent out to residents who are 40, 45, 50, 55, 60, 65, 70, 75, 80 and 85 years old.

The key point to increasing the percentage of retired men who undergo medical check-ups is to find concrete methods of maintaining men's motivation in looking after their own health.

Conclusion

1. Overall, there was no appreciable difference between men and women in levels of sense of well being. However the percentage of women in their sixties who answered, “I am in excellent health” was twice as high as that of men in the same age bracket.
2. Approximately 50 - 60 percent of women who engage in homemaking tend to receive medical check-ups under the Health Promotion Law.
3. A greater percentage of men in their fifties undergo complete medical check-ups (*NINGEN DOCK*) than any other age bracket.

Recommendations Moving Forward

Reforms should consider not only the type of check-ups and residents/local government attitudes towards those annual medical examinations but also establish a new framework within which guidelines can be drafted to deal with the problem of undetected health hazards, and screening tests implemented to assess the impact of such lifestyle-affecting disorders. We advise that public health nurses should visit local doctors and ask those doctors to recommend that their patients undergo annual medical check-ups run by the city. Further, public health nurses should analyse the data derived from these annual medical examinations in order to determine trends in public health. Finally, public health professionals should encourage residents to take a more active interest in maintaining their health.

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〔報告〕

在宅高齢者の相談業務におけるアセスメント情報への 関心と関連する要因

— 在宅高齢者モデル事例に対するアセスメント情報と職種および知識・技術との関連 —

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Interest in information obtained from assessments in counseling services for the elderly living at home, and related factors: Relationship of information obtained from assessments to occupation, knowledge and skills in model elderly persons living at home

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要 旨

本研究は、在宅高齢者モデル事例の相談業務におけるアセスメント情報への関心と関連する要因を明らかにすることを目的とした。対象は、在宅介護支援センターで業務に従事する保健師、看護師、介護福祉士、社会福祉士である。調査方法は、自記式質問紙による横断的調査であり、有効回収数は2211票（有効回収率は73.7%）であった。従属変数は、「アセスメント情報への関心」を、独立変数は、「知識・技術の自信」、職種、基本属性とする重回帰分析を行った。

「アセスメント情報への関心」の『生活情報』と『疾患情報』因子において、重回帰式の当てはまりがよかった。『生活情報』因子は『生活を理解する知識』と『相談業務の技術』および職種とが、『疾患情報』因子は『疾患の知識』と『生活を理解する知識』および職種とが関連していた。相談業務におけるアセスメントの技量を向上するには、それに必要な知識・技術を明確にし、その知識を向上するような知識普及型の研修が有効である。

キーワード：在宅高齢者、アセスメント情報への関心、知識・技術、資格

Summary

The objectives of the present study were to clarify the level of interest in information obtained from assessments in counseling services for model elderly persons living at home and identify related factors. The present study was conducted in 1997 before the elderly care insurance system was enacted; however, the results are believed to be universal and provide suggestions for assessment research on counseling services. Subjects were health nurses, nurses, nursing care workers and caseworkers working at home-care support centers. The present study was a cross-sectional survey using a self-administered questionnaire with 2211 effective questionnaire (a 73.7% valid reply rate).

Multiple regression analysis was performed using “interest in information obtained from assessments” as a dependent variable and “confidence in knowledge and skills”, occupation and basic attributes as independent variables.

The fit of the multiple regression equation was fine for the “life information” and “disease information” factors of “interest in information obtained from assessments”. The “life information” factor correlated to “knowledge for understanding life”, “counseling service skills” and occupation. The “disease information” factor correlated to “disease

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