Health Checkup for the Elderly in the St. Marianna University School of Medicine Hospital

Yuko Tohyo¹, Masatoshi Hara¹, Kae Suzuki¹, Yukiko Ohtani¹,
Fumihiko Miyake¹, Keito Torikai², and Nobuyoshi Narita²

(Received for Publication: August 14, 2008)

Abstract

Background: Basic health checkup for the elderly aged 65 years or older had been provided by the local government until March 2008. The new health checkup system has started since April 2008. Our previous reports have assessed the significance of health checkup for the elderly and suggested its effectiveness. The present study has summarized the results of health checkup for 6 months and evaluated an ideal health checkup system.

Subjects and Methods: This retrospective study was conducted on 954 subjects (521 males and 433 females, mean age of 71.9 years) who received health checkup at the Health Care Center of the St. Marianna University School of Medicine Hospital between October 2006 and March 2007, based on medical records and health checkup results.

Results: Among our study population, 896 subjects completed the required items. Of these, 787 subjects (87.8%) were diagnosed as having some kind of health problem and 512 subjects (57.1%) returned to receive health checkup in two consecutive years. Of the 512 returning subjects, 258 subjects (50.4%) showed improvement and 149 subjects (29.1%) had exacerbated health problems. In addition, 719 subjects (80.2%) of the study subjects answered as having primary care doctors and 177 subjects (19.8%) having no primary care doctors. Many subjects with primary care doctors were treated in our hospital. The results of this study demonstrated that many subjects with primary care doctors showed significant improvement compared to those without primary care doctors.

Conclusions: The results of the present study more precisely indicated more clearly the effectiveness of health checkup in detecting and managing health problems compared to that of the previous studies. Further cooperation with primary care doctors is indispensable for transmitting information and drawing more attention to awareness of the importance of health checkups especially for the elderly who do not receive health checkups. Moreover, necessary education and guidance should be given by both physicians and local governments.

Key words

Health checkups for the elderly, returning checkup subjects, primary care doctors

Introduction

Nowadays, health professionals inquire about activities related to lifestyles and exercise habits to evaluate aging. In response, some patients ask us about diet and exercise therapies at our outpatient

¹ Division of Cardiology, Department of Internal Medicine, St. Marianna University School of Medicine
² Division of General Internal Medicine, Department of Internal Medicine, St. Marianna University School of Medicine
In the aging society, it is important to prevent progression or exacerbation of diseases, as well as to extend their independent lives and minimize the periods of health care dependency, which has been recognized by both local governments and the elderly. This is the reason why basic health checkup for the elderly has been established in Japan; however, only a handful of follow-up studies have been conducted to evaluate the significance of health checkups. We have conducted follow-up studies on health checkups for the elderly aged 65 or older every year. The survey results indicated that the number of subjects who returned to receive health checkups decreased as the period without health problems increased. Many subjects had their own primary care doctors, many of whom worked in other departments in our hospital; however, cooperation with those doctors did not go well in some cases. Our previous study indicated that the number of diseases and the ratio of having primary care doctors increased in line with aging.

This study was aimed to summarize current research to date and evaluate whether health checkups contributed to improvement in the treatment of detected health problems. We retrospectively analyzed medical records and health checkup results for 6 months. In addition, we evaluated the significance of health checkups for elderly people to establish an ideal system.

**Methods**

This retrospective study was conducted on 954 patients (521 males and 433 females, mean age of 71.9 years) who received health checkups at the Health Care Center of the St. Marianna University School of Medicine Hospital between October 2006 and March 2007. Data were collected from the subjects’ medical and checkup records. The survey consisted of the subjects’ blood pressure, required blood test results, diagnoses according to the criteria defined by Kawasaki city (Table 1), outcomes, and the presence or absence of a primary care doctor. Statistical analysis was performed according to the 2-sample test for equality of proportions, and p value of less than 0.05 was considered to indicate statistical significant.

This study protocol was approved by the Ethics Committee of the St. Marianna University School of Medicine Hospital (authorization number 1120).

**Results**

Of the 954 subjects, 896 subjects completed the survey items mentioned above.

Of the 896 subjects, 787 subjects (87.8%) were found having health problems and the remaining 109 subjects (12.2%) had no health problems. Many of them had some kind of health problems (Figure 1).

Of the 896 subjects, 512 subjects (57.1%) returned to receive their second health checkup the following year (Figure 2).

Figure 3 shows details and outcomes of the returning subjects. Of the 512 returning subjects,

<table>
<thead>
<tr>
<th>Blood pressure</th>
<th>Systolic</th>
<th>&lt; 140mmHg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diastolic</td>
<td></td>
<td>&lt; 90mmHg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required blood test</th>
<th>M*: 410–530×10³/mm³</th>
<th>F*: 380–480×10³/mm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hb</td>
<td>M*: 14–18 g/dl</td>
<td>F*: 12–16 g/dl</td>
</tr>
<tr>
<td>AST</td>
<td>8 ~ 40 UI</td>
<td></td>
</tr>
<tr>
<td>ALT</td>
<td>5 ~ 35 UI</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td>0.6 ~ 1.2 mg/dl</td>
<td></td>
</tr>
<tr>
<td>Fasting blood glucose</td>
<td>&lt; 110 mg/dl</td>
<td></td>
</tr>
<tr>
<td>Total cholesterol</td>
<td>M*: 155 ~ 199 mg</td>
<td>F*: 160 ~ 219 mg</td>
</tr>
<tr>
<td>Triglyceride</td>
<td>&lt; 149 mg/dl</td>
<td></td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td>&gt; 40 mg/dl</td>
<td></td>
</tr>
</tbody>
</table>

*: M: male, F: female

Figure 1. The identified health problems.

Among the study population, 787 subjects (87.8%) had some problems and 109 subjects (12.2%) had no health problems.
258 subjects (50.4%) showed improvement, 149 subjects (29.1%) exacerbated their problems, 86 subjects (16.8%) had no improvement or change after the first checkup, and 19 subjects (3.7%) had no health problems at the first checkup and remained healthy.

Figure 4 shows the presence or absence of primary care doctors. Of the returning subjects, 414 subjects answered that they had primary care doctors and 79 subjects said they did not. Of these, 229 subjects (55.3%) with primary care doctors and 29 subjects (36.7%) without primary care doctors showed improvement. The subjects with primary care doctors showed significant improvement after the first health checkups compared to those without primary care doctors ($p<0.01$).

Discussions

Basic health checkup for the elderly, which is a method unique to Japan, has been established to motivate the elderly to deal with their health problems. The significance of health checkups has been recognized to detect and manage health problems. To date, we have conducted a series of follow-up studies to evaluate the effectiveness of health checkups.

The result of this study showed that many subjects had health problems. The previous studies reported that approximately 60% of the elderly were found having health problems by health checkups at the age of 65[10]. Further surveys should be required to investigate age differences, especially in the subjects aged 75 years or older.

In the present study, only 57.1% returned to receive their second health checkup the following year, which suggested that the elderly have little awareness of the importance of annual health checkups. Further follow-up surveys throughout the year would be necessary. In the present study,
some of the study subjects might move in and received health checkup during the study period. Unfortunately, we could not investigate whether they had received health checkup in the previous year. It might attribute to the decreased number of returning subjects. Of the returning subjects, 50.4% of those showed improvement, 29.1% exacerbated their health problems, and 16.8% had no improvement or change after the first checkups. Our previous studies have reported that health checkups do not often contribute to improvement of health problems\(^5\)\(^7\). In the present study, we could observe an increased number of subjects who improved their health problems. It was presumed due to the mean age of this study subject, which was 7 years older than the age when they received the first checkup at the age of 65. The elderly are encouraged to receive annual health checkups and acquire primary care doctors as the number of health problems increases with aging. It is noteworthy that the subjects with primary care doctors show significant improvement of health problems detected on health checkups. It is reported that drug compliance of the elderly is generally good when they come to realize the importance of taking medicine\(^8\)\(^9\). Thus, it is necessary to make the elderly understand the importance of annual checkups\(^10\)\(^11\). This might increase the motivation of elderly people to receive annual health checkups and build good relationships with their primary care doctors. Many of the subjects had their primary care doctors in our hospital and visited specialists in various fields of medicine, such as physicians, orthopedists, ophthalmologists or dermatologists. This study result suggested the needs for restructuring the present information transmission system in our hospital. We should give the elderly an additional explanatory note besides their clinical records and explain the result of checkups to the subject's family.

The results of this study demonstrated the significance of health checkups to make the elderly undergo early treatment after having health checkups. Further education and guidance should be given by primary care doctors to encourage the elderly, especially those who do not receive health checkups. In recent years, having a primary care doctor has gained broad attention in the field of internal medicine. Since the new health checkup system has started in April, 2008, it is necessary for both primary care doctors and local governments to investigate that the system of the annual health checkups for the elderly is accepted.

**Conclusions**

The results of this study demonstrated the importance of annual health checkups to prevent and
manage health problems, such as adult diseases. The following two points should be emphasized under the new health checkup system to make the elderly understand the importance of 1) receiving annual health checkup to evaluate their health status and 2) having primary care doctors. In addition, cooperation with primary care doctors is indispensable for transmitting information and drawing more attention to awareness of the importance of health checkups among the elderly, especially those who do not receive health checkups.

Acknowledgment

The abstract of this study has been presented at the 44th Meeting of The Japanese Society of Clinical Physiology, the 31st Meeting of The Japanese Medical Society of Primary Care, and the 41st Meeting of The Japan Society of Adult Diseases.

References

聖マリアンナ医科大学病院における老人保健法基本健康診査の評価

戸兵 雄子¹ 原 正俊¹ 鈴木 香緑¹ 大谷 行子¹
三宅 良彦² 市川 武人² 成田 泰義²

抄録
(背景)老人保健法基本健康診査は、2008年3月まで各自体験が施行してきた65歳以上の住民に対する健康診断である。我々は、これまでその効果性について検討し、一定の効果があることを説明してきた。今回更に6か月後の調査結果をまとまり、あらためてその有用性を検討し、今後の健康診断のありかたについて提言する。

(対象)聖マリアンナ医科大学病院健康診断センターにおいて2006年10月から2007年3月にかけ本診を受診した954名である。平均年齢は71.9歳であった。

(結果)調査結果が完全に施行されていたものは、896名でそのうち787名(87.8%)が何らかの異常や疾患を指摘されていた。65歳の初回から受診していたのは30名(70.3%)。2年連続受診者は512名(57.1%)。そのうち翌年改善したのは258名(50.4%)、悪化した例は149名(29.1%)。かかりつけ医に関しては、あるが96名で719名(80.2%)で、あらかじめ177名(19.6%)であった。その受診者は、院内が多いという結果であった。連続受診に対して改善率をみるとかかりつけ医がある方がかかりつけ医がない群比して有意に高かった。

(考察)疾患の改善に関して本診査が有意義かという点では、有効な手段であるといえる。今後は、疾患予防のために、院内のかかりつけ医に結果や情報がさらに上手く伝達するシステムを構築する必要がある。また、有効な手段であっても非受診者に受診させることができ疾患の発症予防には必要である。それには我々が施設のみではなく、行政と一体となった広報などを強化していく必要があると考えられた。

¹ 聖マリアンナ医科大学 内科学(循環器内科)
² 同 内科学(総合診療内科)