THE ROLE OF PREVENTION IN THE CARE OF THE ELDERLY

Robert Kane

In cooperation with the Israel Gerontological Society.

international forum

IF-5-85

JOINT (J.D.C.) ISRAEL
BROOKDALE INSTITUTE OF GERONTOLOGY
AND ADULT HUMAN DEVELOPMENT IN ISRAEL

J.D.C. HILL, P.O.B. 13087, JERUSALEM 91130

THE INSTITUTE
is a national center devoted to research, experimentation and education in gerontology and adult human development. It was founded and is funded by the American Jewish Joint Distribution Committee (AJDC) with the assistance of the Brookdale Foundation and the support of the Government of the State of Israel. Its research is policy- and program-oriented, multidisciplinary and, primarily, of an applied nature.

The Institute tries to identify socially relevant problems and to recommend alternative solutions to problems of the health and social services and policies. It attempts to bring together academic and governmental experts and other public officials and citizens in order to link research findings with their implementation.

INTERNATIONAL FORUM
papers offer the research findings and professional views of visiting foreign scholars, Institute staff and other Israeli academics. Series papers present discussions that extend beyond the Israeli empirical context or that deal with issues of conceptual and methodological issues of general international interest. The Series thus serves as a forum in which current practice and thinking in the field of aging can be examined from an international perspective.

The findings and conclusions presented are those of the author or authors and do not purport to represent the views of the Institute, and of other persons or groups associated with it.

THE ROLE OF PREVENTION IN THE CARE OF THE ELDERLY

Robert Kane

Senior Researcher, The Rand Corporation
University of California (Los Angeles) School of Medicine,
Multicampus Division of Geriatric Medicine

Based on a keynote address presented at the Sixth National Conference of the Israel Gerontological Society.

Jerusalem

August 1985

Abstract

The techniques of preventive care, when applied to the elderly, must take into account the particular health characteristics of that age group. The potential of preventative care to improve the health of the elderly and to reduce the risk that some conditions will occur is the subject of this paper. Four strategies for preventive care are suggested, ranging from traditional approaches, such as immunization for influenza, to more complex interventions aimed to encourage weight loss or cessation of smoking.

The traditional methods for treating and preventing heart disease, cancer, stroke, and arthritis - the four most prevalent chronic diseases in the elderly - are described and their effectiveness assessed. The potential benefits of a number of less conventional treatment methods are also considered, such as moderate exercise to prevent coronary heart disease and psychological intervention to prevent suicide among elderly suffering from depression.

Close attention to elderly patients by physicians is cited as a means of preventing health problems that are often unrecognized in the usual course of treatment. Visual, hearing, and oral health problems, in particular, can hamper the performance of everyday activities if undetected. More subtle problems, such as depression or difficulty in sleeping can be more readily detected if they are directly addressed in routine visits to physicians. Recommendations are given for the frequency of examining a number of physical and mental conditions of elderly patients.

Finally, the role of the physician is discussed as a factor which

may work against preventive efforts. Excessive prescription of drugs, for example, could cause more problems that it solves among the elderly. Similarly, admission to a hospital may plague older persons with psychological problems that are much more serious than the physical problems which led to their hospitalization.

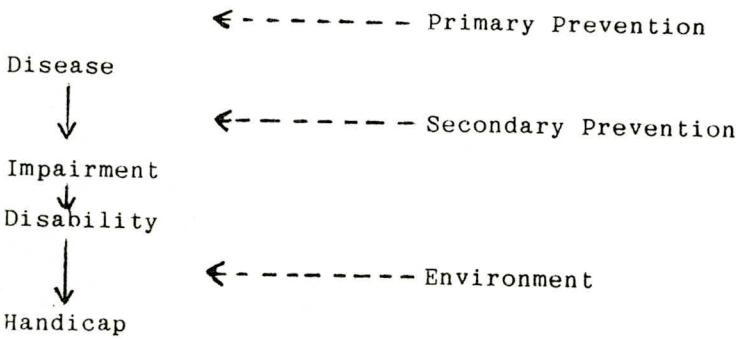
Table of Contents

List of Tables and Figures

Introduction

Any discussion of prevention in the elderly must address the interface between the language of prevention and the language of geriatrics. We tend to speak of prevention in a series of stages beginning with primary prevention, or the elimination of risk factors; secondary prevention, which addresses the early detection of disease; and testing prevention, which involves changing overall environment to facilitate rehabilitation. The general model of geriatrics is one based on the appreciation that much of the disease in the elderly is chronic. The basic paradigm is one adapted from work in rehabilitation (WHO, 1980). It recognizes a progression from disease to impairment to disability to handicap, wherein the latter is defined as ability to function effectively in a specific environment. The potential interface of these two approaches is diagrammed in Figure 1:

Figure 1:



Examples of how preventive activities might relate to appropriate levels of incapacity can be seen in Table 1.

Table 1: Examples of Preventive Activity

Level of Incapacity to be Prevented	Type of Prevention		
	Primary	Secondary	Tertiary
Impairment	Removing hazards in home	Screening for hypertension or cervical cancer	Estrogen therapy for osteoporosis
	Immunization		
Disability	Avoiding bed confinement	Attention to visual and hearing problems in primary care	Stroke rehabilitation
	Decreasing drugs		
Handicap	Specially designed housing for the disabled	Community case-finding (e.g., isolated disabled)	Wheelchair ramps

Source: Kane, Robert L.; Kane, Rosalie, A.; Arnold, Sharon. "Prevention in the Elderly: Risk Factors". Health Services Research. (In press)

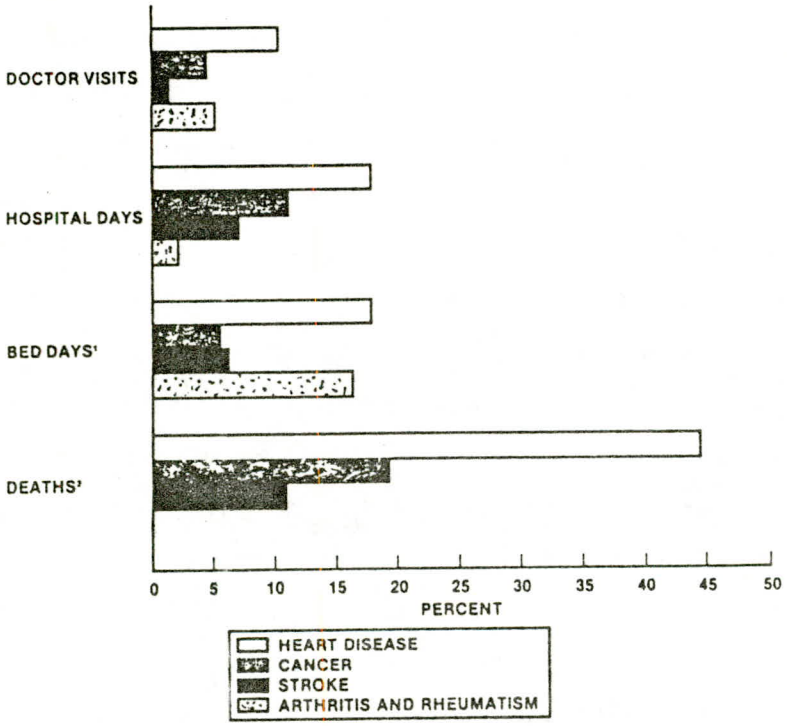
Much of our discussions about preventive activities revolve around our interest in reducing risk factors. It is important to remember that a risk is simply the association of a given element with a higher probability of some deleterious event occurring. Risk factors may in fact not be alterable (for example, genetic factors) or in other cases the change in the risk factor may not necessarily result in appreciable change in the risk itself. For example, there is good reason to believe that changes in obesity may not change the risk of heart disease unless the change of weight is maintained for 15 or more years. It is important therefore to distinguish risk factors from potential remedies. In some cases we may want to use the risk factors as a means of identifying high risk groups which might then be examined for specific areas of potential intervention. In some cases the risk factors may be very different from those factors which are responsive to treatment. For example, one of the best predictors of risk of stroke is systolic hypertension, but most of the data up to now suggest that prevention of stroke depends on reducing diastolic hypertension.

I would like to focus my remarks on four different areas of potential for increased preventive activities for the elderly. These four activities may be summarized as: 1) traditional prevention, 2) general behavior changes, 3) need for closer physician attention, and 4) the reduction in iatrogenic conditions.

Traditional Prevention

We can begin with epidemiological data on the diseases it would be most helpful to treat. There is some information on the burden of chronic illness in the United States. Figure 2 illustrates the burden

Figure 2: **BURDEN OF ILLNESS ACCORDING TO SELECTED CONDITIONS PERSONS 65 YEARS AND OLDER 1980**



¹Average for 1979 and 1980.
²Provisional data.

SOURCE: National Center for Health Statistics: Division of Health Care Statistics, Division of Health Interview Statistics, and Division of Vital Statistics, reprinted from: *Health_United States, 1982*, National Census for Health Statistics.

From: Kane et al., 1984.

created by the four most prevalent chronic diseases: heart disease, cancer, stroke, and arthritis. As can be seen in the figure, the extent of the burden varies with the measures of burden used. Although arthritis accounts for a good deal of disability, it is clearly the cause of no mortality. On the other hand, heart disease is a major contributor to each of the four measures of burden. Data (with varying degrees of rigor) are now available that suggest a number of things that are useful to reduce the risk of heart disease, even among the elderly. Topping the list is the elimination of cigarette smoking. Data suggest that the control of blood pressure and reduction in blood cholesterol and lipids are effective in reducing the risk of heart disease in individuals up to age 70. Unfortunately, the elderly have been generally excluded from these kinds of clinical trials in the past and we can only extrapolate to assume that some of the benefits would extend to them as well. Other refractive risk factors that have been citied as contributing to the risk of heart disease include lack of excercise, excess stress, obesity, and diabetes mellitus. One encounters a similar list of risk factors for stroke. Here the major risk factor seems to be hypertension, particularly the systolic. But also prominent are cigarette smoking, elevated blood lipids, and diabetes melllitus.

One can talk at a larger level about efforts designed to prevent a problem such as bone fractures. These efforts divide into two major components. One is designed to improve the strength of the bones themselves through the elimination or minimization of osteoporosis; the other focuses on the reduction of the risk of falls by attention to both medical factors and environmental hazards to prevent accidents. Evidence is now developing to suggest that osteoporosis

can be delayed by judicious use of estrogens. Certainly most post-menopausal females need additional calcium in their diet and many may need vitamin D supplementation as well. There is some evidence to suggest that regular exercise may contribute to bone strength.

Most of us are familiar with some of the efforts that can be undertaken to detect cancer of various types at early, more treatable stages which are associated with better survival rates. In the area of cervical cancer, the Pap smear has become an estabished part of medical practice. The challenge now is to get to those women at greatest risk and not simply to continue to screen those easiest to reach. In the area of breast cancer there is growing evidence to suggest that both formal screening programs through physical examinations, mammography, or thermography and increased use of breast self-examination can detect these cancers at an earlier, more treatable stage. The third leading cause of cancer death in the elderly is colorectal cancer. Here examination of the stool for occult blood and routine sigmoidoscopies have been recommended as techniques to uncover treatable lesions.

General Behaviors

There are several general behaviors which offer potential benefits for a variety of conditions in the elderly. We have already noted that cigarette smoking is associated with increased risks of heart disease and stroke. It is also a major contributor to various types of lung disease and a variety of cancers. The issue is no longer to establish the credibility of this contention, but rather to find useful ways to encourage individuals even in their later years to discontinue an addiction.

A number of dietary changes have been proposed, with varying degrees of established efficacy. There is clearly benefit from a moderate diet and avoidance of extremes of both under and over nutrition. Obesity carries with it both increased risk factors for general mortality as well as a general added burden on the skeletal and cardiovascular system. Recent evidence from intervention trials suggests that lowering of blood cholesterol levels has a positive impact on the risk of coronary artery disease. Although some may debate the evidence to prove the value of exercise, there is general consensus that moderate exercise is not only beneficial but provides a sense of positive well-being. Certainly, the elderly are particularly vulnerable to problems of immobility and should benefit from exercise in terms of both their physical and mental well-being. An important area for the elderly is the danger of social isolation and resulting depressions. Suicides are common among the elderly, and depression is probably the most prevalent mental illness in this age group. A more difficult question is how to intervene effectively in individuals who have become socially isolated. Almost by definition, these are the individuals most difficult to identify.

Improving Physician Attentiveness

There are a number of conditions which go untreated because they are either unrecognized or never looked for in the course of ordinary medical care. Many of these, if identified and approached, could greatly improve the functioning status of the elderly. A recent randomized controlled trial of a geriatric program suggests that such an approach can produce dramatic results in high risk patients (Rubenstein et al., 1984).

If physicians would simply recognize the obvious, much could be done to assist the elderly. For example, many elderly individuals have correctable vision problems which are simply overlooked in the course of routine care. Similarly, many have remediable hearing difficulties. These two faculties are critical for communication and may make the difference between an individual who is functional and one who is not. Dental disorders, including the need for dentures, is a major problem in the elderly. Particularly in the current generation of elderly, there is a high prevalence of endentulousness. Properly fitted dentures can make the difference between an individual who can eat and communicate and one who cannot.

Other problems are more subtle. We have already talked about difficulties of identifying those individuals who may be depressed. Rather than advocating complex questionnaires or screening devices to identify depression, it is probably sufficient to simply urge all physicians to ask as a routine part of their history-taking, "Are you depressed?" The problem is less likely one of making sophisticated diagnoses than simply considering the problem in the list of possible explanations for findings. In the same vein, physicians may as well consider the possibility that patients may be exhitibing symptoms as a result of alcoholism. Elderly people are certainly prone to this problem in the United States, and interestingly have a better rate of recovery than do younger alcoholics. Again, the major problem is in considering the possibility of the existence of the problem.

A common complaint among elderly patients, perhaps just behind constipation, is difficulty in sleeping. Again, physicians need to be alerted to considering a variety of possibilities before rushing to

simply prescribe drugs which may in turn complicate rather than abate the problem. We are just beginning to understand some of the changes in sleeping patterns associated with aging, but conservative approaches to the problem and consideration of other ideologies, such as inactivity and depression, may be more effective than simply treating the symptoms at their face value.

Table 2 summarizes some of the recommendations made by a Canadian Task Force on basic kinds of preventive activities appropriate to older persons. These recommendations are of interest because they are specifically designed to be incorporated into routine medical care rather than to require any additional special screening activities.

Iatrogenesis

It appears that the most preventable of all conditions in the elderly is iatrogenic disease. One can safely state that the elderly are over-medicated, over-labeled, and over-institutionalized. Elderly persons consume a disproportionate number of drugs, even when one considers the number of problems that they have. There is an unfortunate tendency to add a new drug for each new symptom. Less attention is paid to compliance than is appropriate. Physicians tend to increase the dosage before they find out whether the patient has been taking the old dose. Each new drug added to the patient's list increases the probability of drug interactions side-effects, and lessens the likelihood of compliance as the regimens become more complicated.

Elderly persons, particularly those residing in institutions, are at high risk for institutionally acquired infections. Excess use of urinary catheters poses a special risk of nosocomical infection.

Table 2: Periodic Health Examination Recommendations

	Frequency	
	Ages 65-74	Age 75+
Tetanus/diptheria immunization	Every 10 years	Every 10 years
Influenza immunization	Annually	Annually
Hearing: history and clinical testing	Periodically	Perdiodically
Blood pressure measurement	Every 2 years	Every 2 years
Oral examinstion: dental caries, periodontal disease, oral cancer	Annually	Annually
Test for occult blood in stool	Annually	Annually
Assessment of physical, psychological, and social functioning	Every 2 years	Annually
Hypothryoidism	Every 2 years	Every 2 years
Skin cancer	Periodically	Periodically
Pap smear	Every 5 years	Every 5 years
Special tests (based on clinical judgment of risk):		
Tuberculin skin test		
Cytology of urine		

Source: After Canadian Task Force on the Periodic Health Examination, 1979. In: Kane et al., 1984.

Although we have talked about the failure to pay close enough attention to some of the problems of the elderly, there is an equal or greater problem of being too zealous in affixing labels to conditions found in older persons. Perhaps the most familiar example is the older person who adapts poorly to a new environment, like a hospital. Admitted into such a situation, the older person may become confused and disoriented. Trapped in a hospital bed with the railings up, the elderly patient may find himself imprisoned. Should he need to get up in the middle of the night to go to the bathroom, he may have some difficulty climbing out of his cage and reaching an unfamiliar toilet in time. The resulting urinary accident may lead to an overzealous diagnosis of incontinence which could be the first step in a downward spiral, leading to institutionalization.

As more programs develop for competent comprehensive geriatric assessment, recognition has grown about the number of potentially reversible conditions that can be uncovered with appropriate, careful examination. Because of the dire consequences of affixing labels like dementia or incontinence to elderly individuals, one wants to urge caution in too quickly reaching these diagnostic conclusions.

A similar kind of caution can be raised about the propensity to look to the nursing home as the first response to an elderly person in crisis. Unfortunately, institutional solutions are often the most available, particularly in times of acute crisis. It takes much more effort to mobilize appropriate community supports. However, the long term risks, both human and financial, may more than justify the added effort in seeking more appropriate solutions to the problem.

Summary

To summarize, there are a number of potential strategies for prevention in the elderly. These run the gamut from traditional approaches to problems as basic as appropriate immunizations for influenza and pneumonia to more complex interventions designed to prevent or delay disability or impairment. Some of these strategies are summarized in Table 3.

Table 3: Examples of Preventive Strategies for the Elderly

Primary prevention:
Immunization
Household safety check
Screening:
Blood pressure
Pap smear
Mammography
Breast self-examination
Stool guaiac test
Behavior change:
Smoking
Exercise
Weight loss
Seat belts
Change in food types
Antihypertensive medication

Source: Kane et al., 1984.

References

American Association of Retired Persons. (No date). Aging America: Trends and Projections Prepared in conjunction with U.S. Senate Committee on Aging.

Kane, R., Ouslander, J., Abrass, I. 1984. Essentials of Clinical Geriatrics New York: McGraw-Hill.

World Health Organization. 1980. International Classification of Impairments, Disabilities and Handicaps Geneva.

Rubenstein, L. et al. 1984. "Effectiveness of Geriatric Evaluation Unit: A Randomized Trial". New England Journal of Medicine 311: 1664-1670.

תפקידה של המניעה בטיפול בקשיש

רוברט קיין

בשתף עם האגודה הישראלית לגרונטולוגיה

פורום בינלאומי

פב-5-85

ג'וינט ישראל
מכון ברוקדייל לגרונטולוגיה
והתפתחות אדם וחברה בישראל

גבעת-ג'וינט, ת.ד. 13087, ירושלים 91130

המכון

הוא מכון ארצי למחקר, לניסוי ולחינוך בגרונטולוגיה והתפתחות אדם וחברה. הוא נוסד ב-1974 ופועל במסגרת הג'וינט האמריקאי (ועד הסיוע המאוחד של יהודי אמריקה), בעזרתן של קרן ברוקדייל בניו-יורק וממשלת ישראל.

בפעולתו מנסה המכון לזהות בעיות חברתיות ולהציב להן פתרונות חילופיים בשירותי הבריאות והשירותים הסוציאליים בכללם. אחד מיעדיו הוא להגביר שיתוף הפעולה של מומחים מהאקדמיות והממשלה, עובדי ציבור ופעילים בקהילה כדי לגשר בין מחקר לבין מימוש מסקנות מחקר הלכה למעשה.

סידרה בינלאומית

המאמרים מציגים מימצאי מחקר והשקפות מקצועיות של מלומדים אורחים מחו"ל, של אנשי אקדמיה בארץ ושל חברי סגל המכון. המאמרים בסידרה מציגים דיונים החורגים מעבר להקשר האמפירי הישראלי, או עוסקים בסוגיות מושגיות ומתודולוגיות בעלות ענין בינלאומי כללי. בכך משמשת הסידרה במה שבה נבחנים בפרספקטיבה בינלאומית ההלכה והמעשה של נושאי ההזדקנות.

הממצאים והמסקנות המוצגים הם של המחבר או המחברים וללא כוונה ליצג את אלה של המכון או של פרטים וגופים אחרים הקשורים למכון.

תפקידה של המניעה בטיפול בקשיש

רוברט קיין

חוקר בכיר, THE RAND CORPORATION
אוניברסיטת קליפורניה (לוס אנג'לס), ביה"ס לרפואה
המחלקה לרפואה גריאטרית

הוצג בועידה הארצית השישית של האגודה הישראלית לגרונטולוגיה

תקציר

כאשר מיישמים שיטות לטיפול מניעתי לגבי קשישים, יש לקחת בחשבון את המאפיינים הבריאותיים המייחדים קבוצת גיל זו. מאמר זה עוסק ביכולתו של הטיפול המניעתי לשפר את בריאותם של הקשישים ולהפחית את הסיכון לחלות במחלות מסוימות. מוצעות ארבע איסטרטגיות לטיפול מניעתי, החל מן הגישות המסורתיות, כגון חיסון מפני שפעת, ועד להתערבויות מורכבות יותר שמטרתן לעודד הורדה במשקל או הפסקת עישון.

מתוארות השיטות שנבדקו באורח מסורתי לטיפול ולמניעה של מחלות לב, סרטן, שבץ ושיגרון - ארבע המחלות הכרוניות השכיחות ביותר בקרב הקשישים - ונעשית הערכה של יעילותן. כמו כן נבחנות תוצאות חיוביות אפשריות של שיטות טיפול פחות מקובלות, כגון התעמלות קלה למניעת מחלות לב והתערבות פסיכולוגית למניעת התאבדות בקרב קשישים הסובלים מדיכאון.

תשומת לב מיוחדת מצד הרופאים לחולים הקשישים נחשבת לאמצעי שבעזרתו ניתן למנוע בעיות בריאות שאינן מזוהות, לעתים, במסגרת הטיפול הרגיל. בעיות ראייה, שמיעה ובריאות הפה בפרט, עלולות להפריע לפעילות היום-יומית במידה ואין מאתרים ומזהים אותן. בעיות שקשה יותר לעמוד עליהן, כגון דיכאון או הפרעות בשינה, ניתנות לזיהוי קל יותר כאשר הרופא מתייחס אליהן ישירות במסגרת של ביקורים קבועים. מובאות המלצות לשכיחות הרצויה לבדיקת מחלות מסוימות, פיזיות ונפשיות, של חולים קשישים.

לבסוף, נדון תפקידו של הרופא כגורם העלול דווקא להפריע למאמצי המניעה. הגזמה בבחינת תרופות, למשל, עלולה לגרום לבעיות במספר גדול יותר מן הבעיות שהיא אמורה לפתור. בדומה לכך, אישפוז בבית החולים עשוי לעורר אצל הקשיש בעיות פסיכולוגיות שהן חמורות בהרבה מן הבעיות הפיזיות שהביאו לאישפוזו מלכתחילה.

תוכן העניינים

רשימת לוחות ותרשימים