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THESIS

**AN ANALYSIS OF FEATURE ARTICLES PRESENTING RESEARCH ON
HEALTH AND FITNESS IN THE BANGKOK POST**

ANGVARA CHANYIEW

**A Thesis Submitted in Partial Fulfillment of
the Requirements for the Degree of
Master of Arts (English for Specific Purposes)
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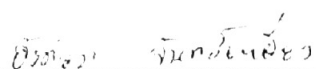
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Feature articles have received the most attention with several studies focusing on its overall structure, but little attention has been given to the study of genre, a linguistic analysis that enables the feature writers to produce a comprehensible piece of feature writing, especially in the area of health and fitness. Therefore, this study is a genre-based analysis of feature articles presenting research on health and fitness published in the Bangkok Post newspaper distributed in Thailand. The main objective of this study is to investigate the move structures of the feature articles in the corpus and to identify a prototypical move of the features investigated.

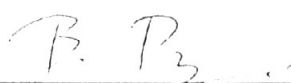
Based on the proposed framework modified from previous studies, twenty-nine feature articles presenting research on health and fitness were analyzed in terms of shared communicative purposes. All moves and steps were investigated and discussed with examples of the most frequent linguistic signals that characterized them. A computerized concordancing program was used for the investigation in linguistic features.

This study reveals that the main communicative purposes of the feature articles investigated are to inform and entertain the readers. To achieve these communicative purposes, four moves must be employed in the articles in sequence as follows: 1) Establishing a topic; 2) Supporting a Claim; 3) Presenting a Counter-Claim; and 4) Making a Recommendation.

The findings of this study would be of great value to the writers of the genre, as well as the teaching and learning of the genre, especially in the class of mass communication. Additionally, the findings of this study hopefully give a guideline for journalists and encourage experts in the medical field to produce feature articles that are able to fit to the publisher's requirement.



Student's signature



Thesis Advisor's signature

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Angvara Chanyiew

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CHAPTER I

INTRODUCTION

Rationale of the Study

As a result of globalization, mass communication has become an essential activity to the modern life of people all over the world because it is able to provide most of the world's population with many kinds of information through films, television, radio, computers, books, magazines and newspapers.

Among the various forms of mass media, newspapers are considered a popular form of mass information outlet transmitted by communicators to a mass audience since a newspaper is cheap and brings news and information to a large number of people in a very short time. Thanomsak (1998) points out in her study that readers can use newspapers not only for information but also for prestige, for maintaining social contact, for entertainment, and as a tool for daily life in the community.

According to Ramsey (1994), in the past, newspapers identified themselves as publications primarily offering straightforward news. However, television and radio eventually proved themselves capable of offering straight information news faster, and perhaps better, than newspapers. Therefore, newspapers were forced to offer not only factual news but also a variety of feature articles in order to gain popularity with readers. That is a reason why features have increased dramatically in recent years.

Newspapers give readers the possibility of choosing what to read from many different kinds of features. Garrison (1989) reveals that there are at least 15 widely recognized types of newspaper features such as descriptive writing and color articles, human interest articles, profiles and personality sketches, travels, service articles, personal experience articles, and science and technical features, and many more when individual variations in these categories are considered. Nevertheless, Patterson (1956) indicates that the demand for scientific and technical feature articles have been

large for many decades. In fact, an interest in specialized subjects, especially science and technical stories is still high (Garrison, 1989) since many major newspapers today have science and technology sections or pages on a regular basis.

In science and technology features, human health and medicine have become subjects attracting a lot of attention as the readers have a greater interest in caring for their health. Consequently, the *Bangkok Post* has published feature articles about health and fitness in the newspaper since 1986. While there is no particular features about health and medicine published in the *Nation*, another Thai English language daily newspaper, the *Bangkok Post* publishes a daily feature section, called “Outlook,” offering a rich variety of stories on topics like “Health and Fitness” as an attraction to gain popularity among readers. That is, the feature section is published not only to give information and knowledge about health and fitness, and to provide entertainment to the readers but also to catch the readers’ interest and to increase sales.

Since the public interest in science and health related information as part of regular newspaper coverage has increased, Maneesawanvong (1996) suggests that there is a greater need for journalists who can translate the language of the laboratories into interesting, readable, and accurate articles. However, Garrison (1989) argues that it seems to be difficult for journalists to write about a specialized topic, especially one such as health and medicine, which has unique linguistic characteristics, a specific style of writing, and technical vocabulary. Hennessy (1997) agrees that it could be a difficult work for journalists not only to write such technical features but also to manage the flood of information reaching their own patch of expertise.

Hennessy also suggests that journalists who have to write on technical subjects need experts in their field or associated fields to guide them in the selection of relevant information and its application. In fact, in writing comprehensible medical features, specialist journalists should be experts with medical background knowledge. Specialists writing in this field can be, for example, doctors or ex-doctors, biologists, nurses, dentists, and veterinarians.

However, in reality, most health and fitness feature writers are journalists graduating with English backgrounds; few of them are members of the medical discourse community. The reason is that, the specialists whose writing experience has been limited to addressing highly specialized audiences or reporting to learned journals lack the writing skills needed for general interest publications. In other words, it is quite hard for the specialists in the medical field to write comprehensible medical features that meet publishers' requirements as they are not familiar with the style of writing for the print media.

In addition, in spite of the fact that there is a wide variety of books on how to write feature articles written by prominent authors such as Patterson (1956), Williamson (1975), Garrison (1989), Ramsey (1994) and Hutchison (1996), on the practical level, they fail to help doctors or researchers write health feature articles that meet publishers' requirement. This is because most of the how-to books provide only broad structures and general guidelines for feature writing.

During the last decade, the spread and influence of English has contributed to the rise of an area of investigation called English for Specific Purposes (ESP). A lot of attention has been given to ESP because it is deemed an effective way of teaching English.

In the field of ESP, genre analysis has been a widely recognized concept concerning linguistic analysis of language. Since the early 80s, interest in genre-centered approaches to the analysis of written and spoken discourse has been motivated by the need to provide satisfactory models and descriptions of academic and scientific texts and to enhance the ability of non-native speaker students to understand and to produce them (Holmes, 1997).

According to Bhatia (1993a, 1993b), the notion of genre analysis offers a powerful and useful system of analysis which allows a far "thicker" observation to be made on the repeated communicative functions than that offered by any other system of analysis in existing literature. He believes that genre analysis has become a

powerful and useful tool to arrive at significant form-function correlations which can be utilized for a number of applied linguistic purposes, including the teaching of English for specific purposes.

Consequently, in order to make an analysis of a particular type of text, the study of genre should be employed to obtain knowledge of how the texts are organized, what linguistic features are used, and why they are written and used by the specialist communities the way they are (Bhatia, 1993a, 1993b).

However, little attention has been given to genre analysis of feature articles in English language newspapers, especially in the area of health and fitness. As a result, this study aimed to analyze feature articles about health and fitness using the genre approach in order to help researchers, doctors and even journalists write health and fitness feature articles that meet publishers' requirements.

Objectives of the Study

The purposes of this study are as follows:

1. To investigate the following aspects of the genre of feature articles presenting research on health and fitness:

- 1.1 Moves and steps of health feature articles in the corpus, together with their communicative purposes

- 1.2 Patterns of move orders of health feature articles in the corpus

- 1.3 Frequencies of moves and steps of the features in the corpus

- 1.4 Distinguishing linguistic features that signal and characterize moves and steps.

2. To identify a prototypical move of feature articles investigated

To achieve the aim of the study, the researcher mainly attempts to answer the following questions:

1. How do most feature writers organize their feature articles about health and fitness to achieve their communicative purposes?
2. Which distinguishing linguistic features do most feature writers use to accomplish their communicative purposes?

Significance of the Study

This study, which attempts to investigate the move structures of feature articles presenting research on health and fitness, will have the following benefits:

1. This study will benefit journalists, freelance writers, and scientific and medical experts, especially doctors and researchers who are interested in disseminating researches on health and medicine, to write feature articles presenting research on health and fitness that meet newspaper publishers' requirements.
2. This study will encourage Thai doctors and researchers to write and publish the findings of their studies in English for the public, both at the national and international levels.
3. This study will be useful in English for mass communication classes as a guideline for writing features presenting research on health and fitness.

Scope of the Study

1. Feature articles published in the sub-section 'Health and Fitness' of the Outlook section of the *Bangkok Post* between January and June 2003 were chosen as the population of the study.
2. Because of time limitations, the researcher intends to analyze only features presenting research on health and fitness. In other words, the analysis focuses only on features aiming at providing knowledge on health and fitness to readers who want to learn about the latest developments in medical research.
3. The researchers chose to collect for the investigation only features that were 300 or more words in length because since some parts of them which were cut in order to fit the space available in the newspaper were very short.
4. The headlines and sub-headlines of the articles were not investigated in this study because feature writers are not concerned with writing these parts of the articles.
5. The research used a computerized concordancing program called 'Oxford WordSmith Tools Version 4.0' (Scott, 2004) to analyze the linguistic features that signal and characterize the moves, sub-move and steps of the investigated feature articles in the corpus.
6. The researcher does not intend to analyze award-winning features because the primary purpose is to make an analysis of texts that are regularly written in the real world in order to offer a practical guideline for feature writing about health and fitness.

Definitions of Key Terms

Genre is an instance of a successful achievement of a specific communicative purpose using conventionalized knowledge of linguistic and discoursal resources (Bhatia, 1993a: 16).

Genre analysis is a study of the language of academic and professional texts that provides explanation of socio-cultural, institutional and organizational constraints and expectations that influence the nature of a particular discourse-genre (Bhatia, 1993a: 10).

Move is a unit that relates both to the writer's purpose and to the content that s/he wishes to communicate (Dudley and John, 1998: 89).

Step is a lower level text unit than the move that provides a detailed perspective on the options open to the writer in setting out the moves in the text (Dudley and John, 1998: 89).

Feature Articles in this study refer to feature articles presenting research on health and fitness. They aim to present a central idea in providing research information about health and fitness to readers who have an interest in the latest medical developments in order to help them find appropriate treatments, to overcome illnesses, or to avoid habits bring on disease.

CHAPTER II

REVIEW OF LITERATURE

In this chapter, three main areas of research will be discussed. Initially, the concept of genre and genre analysis will be explained. Secondly, the related aspect of feature articles in a newspaper and the language of feature writing will be discussed. Finally, some aspects of feature articles presenting research on health and fitness will be pointed out.

The Concept of Genre

The term ‘genre,’ which has a long history in literary studies, has been of growing interest in language teaching and learning, especially in the field of English for specific purposes (ESP). Most ESP researches have used genre theory as a tool for analyzing and teaching the language required of non-native speakers in academic and professional settings because the overall concern of ESP is to assist students in recognizing and learning the patterns of language required in various academic and professional contexts (Swales, 1990; Bhatia, 1993a; Henry and Roseberry, 1996; Dudley and John, 1998). According to Hammond and Derewianka (2001), genre refers to the recognizable and recurring patterns of everyday, academic and literary texts that occur within particular cultures; therefore, it has been used in a range of educational contexts to refer not only to types of literary texts, but also to the predictable and recurring texts that are part of everyday life.

Beginning with the work of Swales (1990) on genre, the term ‘genre’ has been thought of as sociolinguistic activity through which members of a discourse community achieve their communicative goals. Swales (1990: 58) defines “a genre as a class of communicative events, the members of which share some set of communicative purposes.” It is the communicative purpose that is the prototypical criterion for identifying a genre. Similarly, Bhatia (1993a: 13) states that “a genre is a recognizable communicative event characterized by a set of communicative purpose(s) identified

and mutually understood by members of the professional or academic community in which it regularly occurs.” These interpretations of genre suggest that purpose or function is the key concept.

The Concept of Genre Analysis

Discourse analysis is a study of language or text at level above the sentence (Dudley and John, 1998). This type of analysis leads to another text study, genre analysis, which focuses on the analysis of regularities of structure that distinguish one type of text from another type.

According to Swales (1990), genre analysis is a means of studying spoken and written discourse for applied ends; it is an analysis of text to derive an indication in a rationale of why genre texts have acquired certain features. Bhatia (1991) defined genre analysis as the analytical framework which reveals not only the utilizable form-function correlations but also contributes significantly to the understanding of the cognitive structuring of information in specific areas of language use, especially in the field of ESP.

The general aim of a genre analysis in ESP is to identify the moves and strategies of a genre, the allowable order of the moves, and the key linguistic features. The next step is to explain why these features were chosen by expert users of the genre to achieve their communicative purpose (Bhatia, 1993a, 1993b). Later, Bhatia (1997) defined genre analysis as the study of linguistic behavior situated in institutionalized academic or professional settings. Even though in genre analysis, interest is given to the use of language to achieve communicative goals, it does not represent a static description of language use but gives a dynamic explanation of the way expert users of language manipulate generic conventions to achieve a variety of complex goals.

Genre analysis in ESP began with Swales’ pioneering analysis (Swales, 1981, 1990) about research genres in academic settings. His first well-known analysis of structural organization of the genre was done in 1981 (cited in Bhatia: 1993a) when

he attempted to offer an alternative model to account for the rhetorical movement in research article introductions. In 1990 Swales modified this analysis of research article introductions and assigned it a three-move structure called the 'Create a Research Space,' or CARS, model which is shown on the following page:

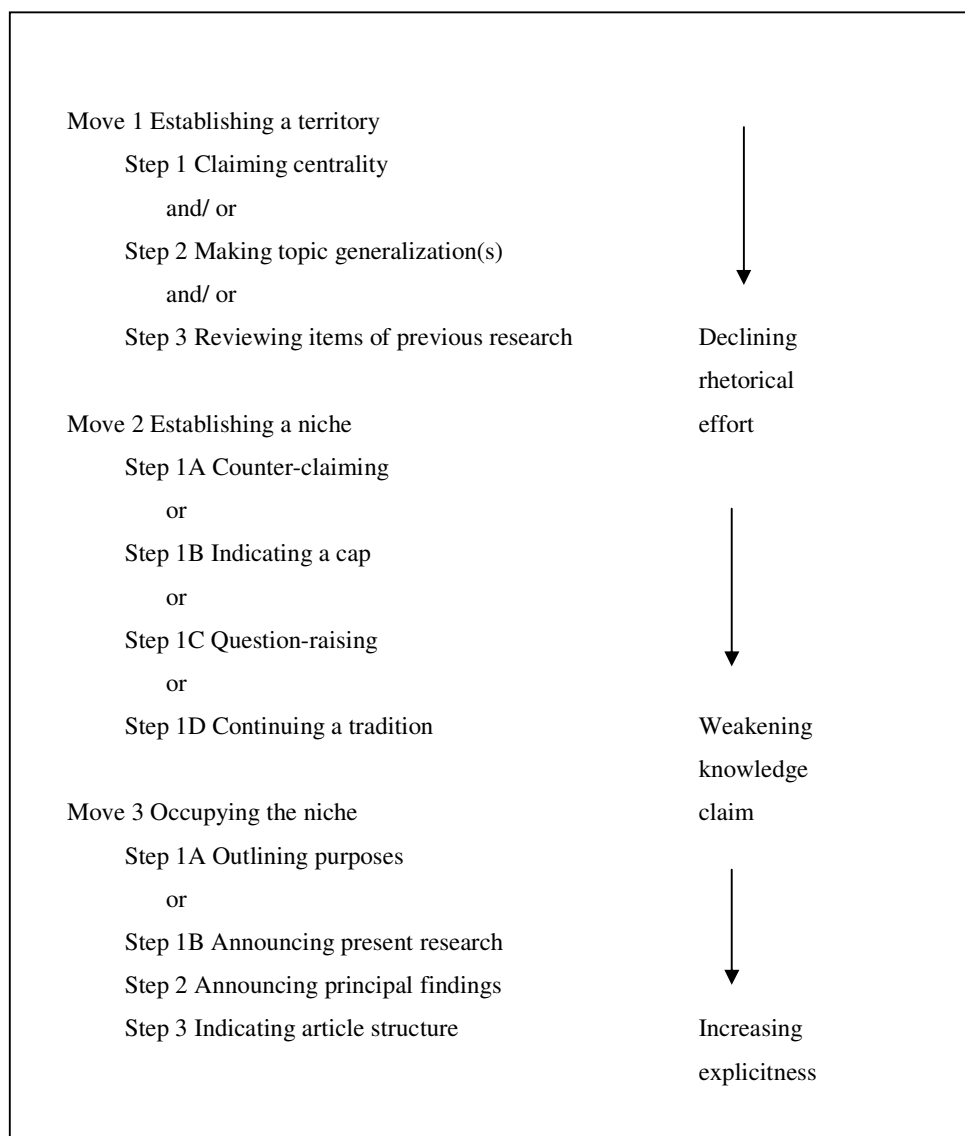


Figure 1 A CARS Model for Research Article Introductions

Source: Swales (1990: 141)

This model and its earlier version (Swales, 1981) summarize structural moves and steps to identify the regular and predictable ways in which introductions of academic articles are organized in order to offer a strong framework of functional units and sequencing rules for the novice writer to rely on. That is, moves and steps seem to provide research writers a way into both the organization of writing and the relevant language forms.

Since the publication of Swales' (1990) genre theory, interest in genre analysis and pedagogy has remained strong in ESP. In fact, his work has been particularly influential on many researches, especially those engaged in research on other sections of research articles such as Results, Discussions of Results and Abstracts. For example, Hopkins and Dudley (1988) adopted Swales' model to the analysis of discussion sections of both articles and dissertations. They identify moves of discussion sections as shown in Figure 2.

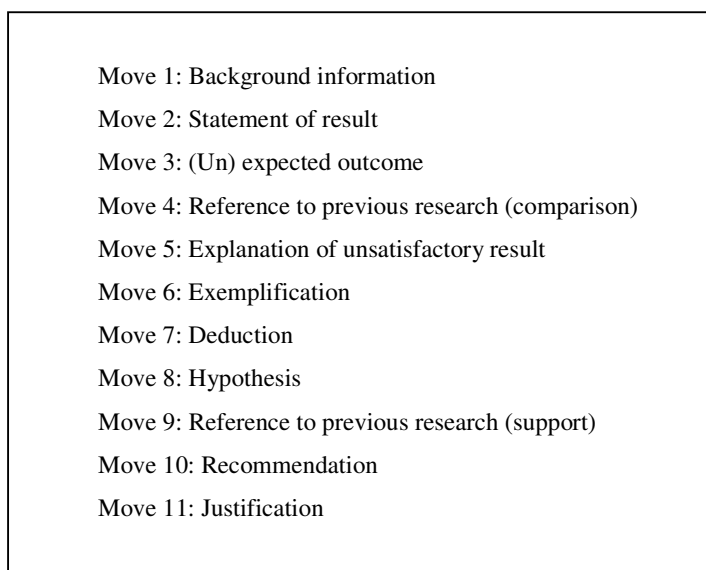


Figure 2 Moves of Discussion Sections in Research Articles and Dissertations

Source: Hopkins and Dudley (1988: 118)

Bhatia (1993a, 1993b) adopted Swales' model to the analysis in research article abstracts and introductions and discovered that research article abstracts and introductions are both in the research setting; they both use the same written mode or channel of communication and share similar participant relationships as well as the level of formality. However, although research article abstracts and introductions are in the same type of text, they are in different genres since their communicative purposes are different. Thus, they must be written in different ways. That means since the two genres have different communicative purposes, they should have different cognitive structuring in order to remain distinct as genres.

Swales' work also has an influence in the broader area of ESP. Bhatia (1993a), for example, has drawn on Swales' works analysis of academic texts in business and legal settings. Bhatia points to the work of Swales in the area of genre analysis as an excellent example of this kind of analysis. However, Bhatia (1991: 22-36) argues that it is necessary to consider a sequence of seven steps in any genre analysis. These steps are shown below:

First, place the genre-text in a situational context by looking at one's prior experience, the internal clues in the text, the writer's previous experience and background knowledge of the specialist discipline to derive an explanation as to why the genre is conventionally written the way it is. This kind of knowledge is greater in those people who by profession belong to the speech community which habitually makes use of that genre. For people who do not belong to the relevant speech community, this kind of knowledge is usually acquired by surveying available literature.

Second, survey existing literature. This will include literature on linguistic analyses of the genre or other related or similar genres; methods or theories of linguistic, discourse, and genre analysis; practitioner advice; and guide books and manuals.

Third, refine the situational / contextual analysis. Having placed the text roughly in a situational/ contextual framework, one needs to refine such an analysis further by:

- a) defining the writer of the text, the audience, their relationship and their goals;
- b) defining the historical, social, economic, political and occupational placement of the community in which the discourse takes place;
- c) identifying the network of surrounding texts and linguistic traditions that form the background to this particular discourse; and
- d) identifying the topic which the text is trying to represent, change or use, and the text's relationship to that reality.

Fourth, select a corpus. In order to select the right kind and size of corpus, the genre must be defined so that it can be distinguishable from other genres that are either similar or closely related in some ways. Criteria have to be set for an adequate selection of the corpus for one's specific purposes.

Fifth, study the institutional context, including the system and/ or methodology, in which the genre is used and the rules and conventions (linguistic, social, cultural, academic, professional) that govern the use of language in such institutional settings. These rules and conventions are most often understood and unconsciously followed by the participants in the communicative situation in which the genre in question is used, but they may be enforced in some institutional settings. This becomes important if the data are collected from a particular organization, which may impose its own organizational constraints for genre construction.

Sixth, study linguistic analyses. One way to do an analysis at this level is to study regularities of organization in the genre, which reveals how the overall message is structured, in order to communicate the intention of the author, to understand the rationale for the genre and to answer the question why that particular genre is structured the way it is. Actually, regularities of organization play an important role in the cognitive structure of a genre because they reflect the strategies that members of a particular discourse or professional community typically use in the construction and understanding of that genre to achieve specific communicative purposes. The study of Henry and Roseberry (1996) emphasized that studying the language of a genre is not sufficient for learning to read, comprehend, and write the genre, even when the genre moves are known; in fact, a focus on the language and linguistic patterns of the individual moves is needed instead.

Seventh, check the result with authorities in the field of interest. It is important for the analyst to double check the findings against reactions from specialist informants, who, generally, are practicing members of the disciplinary culture in which the genre is regularly used. This is done to confirm the findings and bring much needed validity and reliability to the analysis.

Bhatia then applies this framework in his research to patterns of moves in sales promotion letters, job application letters and legal briefs. In his study, Bhatia emphasize the importance of communicative purpose which is crucial for identification of a genre. To support this he analyzed sales promotion letters and job application letters and found that they are instances of the same genre. Although they are in different types of texts, they require the same generic structure for successful writing because they share the same communicative purposes.

In his analysis of sales promotional letters in 1991, Bhatia discovered from the structural interpretation that moves do not necessarily coincide with paragraphs; it is possible to have two or more moves in one paragraph. Moreover, although the letter contains all the seven moves, it is not always obligatory for a writer to use all of them or in the same order.

Likewise, Hasan (Halliday and Hasan, 1985) found that although, in many genres, moves often occur in a fixed order, there are some variations in move order. She further demonstrated that while some moves appear to be obligatory in certain genres, others may be optional. According to Hasan, once the occurrence of a particular move is predicted, the move is obligatory, while an optional element may occur with a high probability but need not occur.

However, Hasan pointed out that genre is defined by obligatory elements in structure. This means that the obligatory elements define the genre to which a text belongs, and the appearance of all these elements in a specific order corresponds to the perception of whether the text is complete or incomplete. Also, she suggests that as long as the text contains the obligatory elements, the text would still be interpreted as belonging to a certain genre. Consequently, it is worth noting that to define a genre, the obligatory elements must be identified.

Moreover, Bhatia (1993a) suggests that in order to look for a principle criterion for identifying move-structure of a particular genre, the focus of analysis must be on the functional rather than the formal characteristics of the linguistic data. Although linguistic data, i.e., the signals appearing in the surface structure of the text, are fairly reliable indicators in a majority of discourse context, the ultimate criteria for assigning discourse values moves is functional rather than formal. It is important for a genre analyst to know the distinctive characteristics of that move. However, it is more important to know which moves the writers of a certain genre make in order to realize their communicative purposes effectively and the relative importance of these moves.

The Aspects of Feature Articles in a Newspaper

A feature article is a piece of writing that gives supplementary knowledge about current events and suggests a point of view on situations (Ramsey, 1994: 7). A feature is a creative, sometimes subjective, article designed primarily to entertain and to inform readers of an event, a situation or an aspect of life (Williamson, 1975: 12).

According to Ramsey (1994), features offer readers something more than the primary news story. Feature writing often lacks the sharp urgency toward publication that characterizes news writing. Features lack of what journalists call 'timeliness'. Writers of features have more flexibility and artistic creativity than writers of news.

Ramsey (1994) also points out that the feature article may suggest a new understanding of a situation through a clearer analysis of statistics or facts, or it may give readers a heightened awareness of what a certain event means to them, or to a particular group of people, or it may provide them with the simple pleasure of reading a dramatic, suspenseful, or verbally dazzling presentation of reality.

Features are elective reading; therefore, they must be able to appeal to the readers. In order to catch the reader's interest, there are three values (Delin, 2000: 106) that feature writers adhere to:

- a) Evidentially: The article will have to give authoritative sources and be backed up with evidence, and these sources should be diverse;
- b) Discursivity: Rather than just informing, the article will be expected to elaborate and explain;
- c) Point of view: Feature articles are expected to argue for a point of view, and should introduce and conclude that argument.

Patterson (1956: 197) illustrates that the same principles in writing advertising may be well applied to the feature article. They are:

- a) Catch the eye

- b) Hold the attention.

Make statements in the first sentence and the first paragraph that will grip the reader to cause him to read on.

- c) Arouse interest.

Follow the first paragraph with statements of an interesting nature and with which the reader will agree, or at least that will continue to hold his interest.

- d) Gain confidence.

Continue holding reader interest in the body of the article by making comparisons, drawing analogies, or using hypothetical examples; or in other ways show that the ideas set forth are informative, helpful, or entertaining, and that they add to the reader's knowledge, wealth and health.

- e) Convince the reader.

Conclude the article by showing the reader in subtle or suggestive ways how many the ideas set forth will inform, guide, or entertain him if he acts upon them or adopts them.

Hennessy (1997: 43) suggests the elements of feature articles below:

- a) Introduction
- b) Premise, or point of view
- c) Thesis, or theme
- d) Body—the core of points, facts, arguments, explanations
- e) Supporting material, anecdotes, quotes
- f) Conclusion

Garrison (1989: 327) proposed four goals to be accomplished in feature writing:

- a) Get the reader's attention: using a lead to draw the readers into the article. Make them want to read it.
- b) Get the reader personally involved by showing readers how the subject affects them. What does it mean to them? How can they benefit from the article's content? Is it written in a personal way to appeal on an individual level?
- c) Illustrate the points by showing readers what the article is about. Give examples and case studies to provide them the situations that they can understand easily-whether the readers be the general public or sophisticated specialists.
- d) Explain the meaning by telling readers what a certain development means. Try to make assessment at some point. Many writers recommended this part be placed near the end as part of the conclusion.

The style and structure of an article is crucial in attracting and holding readers' attention as well (Patterson, 1956). In fact the form the writer uses to tell the story is almost as important as information it relates because the effective structure or the ordering of information enables the feature to stimulate readers to sit up and take notice, choose to read it, and then continue to read it until its conclusion.

Hyon (2001) investigated the effects of an English for academic purposes genre-based reading course on eight adult non-native speakers, and the genres the class studied included feature articles. He found out that the structure comprises three parts: anecdotal lead; connection of anecdote to larger issue; and discussion of various factors involved in the issue.

Delin (2000) agrees that the way in which a feature is introduced is crucially important in determining whether it will be read. The important elements of the story will be encapsulated in the introduction, the opening passage of the feature. Patterson (1956) also states that the main function of the introduction or lead is not only to catch the eye or guide the reader into the article, but also to give the reader an idea of the content of the feature, and to raise the point of presumable reader interest.

The Language of Feature Writing

Maneesawangvong (1996) discovered that the language used in the feature writing of the *Bangkok Post* was simple and yet able to engage the readers' feelings. Because of the large circulation of the *Bangkok Post*, the articles must be written in terms that appeal to the general public. Thus, the language in the features must be understandable by general readers with no medical background.

It is important for feature writers to keep in mind that the wider the audience of readers, the simpler the vocabulary should be. Newspaper feature writers who typically write for broad, diverse audiences of readers should avoid difficult or specialized vocabulary.

Caldas (1994) stated that reporting what people have said is a major feature of many kinds of written texts, including articles in the press. What is said can be either directly attributed to characters in a direct mode or presented by the teller indirectly. In written texts, any reported speech is a form of quotation. Linguistically, 'quote' is the final layer in a hierarchy of narrative levels, since it is the introduction of one text into another. Quotation implies a prior referent that can be referred back to. The main reason for speech representation is significant. Reporter seems to use direct speech as evaluation of the action and as evidence for his or her report. Direct and indirect reporting of words in the news have the function of legitimizing what reported. Thus, the representation of speech is one of the rhetorical strategies used by the media discourse to implicate reliability (Van, 1988).

According to Garrison (1989), most good feature articles are alive with quotation from a variety of people. They help to back up generalizations made about a person, place, or thing. They also give the article an element of reality beyond the perspective of the writer. Hutchison (1996) agrees that every feature should have a quote, which add authenticity and break up long columns of type, because audiences want to hear the exact words of the person telling the story in a feature.

In Hennessy (1997)'s view, quotes are the exact words of someone interviewed, whether the interviewing was done by ourselves or whether they are borrowed from another writer's interview as published; and also to mean any extract from published materials that are not enshrined in great literature or quotation books. Quotes are used to give authority to a statement, or to indicate that it is worth readers' attention, because of the knowledge or experience of the person quoted. Quotes are also used to show that this is what the speaker believes, and that it is not necessarily what the author believes. A quote should normally indicate something more than a mere fact. In a medical field, direct quotation may constitute a violation of 'medical ethics', so indirect speech and cautions summarizing are the common procedures.

The Aspects of Feature Article Presenting Research on Health and Fitness

Friedlander and Lee (1996) reveal that medical feature is a story that is often focused on the struggle to find the appropriate treatment. It can be written tracing the struggle to overcome the illness or to avoid the habits that have brought on the disease.

Garrison (1989) states that a science and technical feature is an article providing an educational service to readers who have an interest in the latest engineering or medical developments. And this in turn helps them live more complete and enjoyable lives. Additionally, Garrison (1989: 326) points out major sections of a scientific journal article that have value to science and technical feature article writers:

- a) Introduction and literature review
 - The problem being studied
 - What has previously been done by other researchers on the subject
 - Justification for the present study
- b) Statement of hypotheses of research questions.
 - The particular focus of the study
 - What the researcher wants or expects the find
- c) Method.
 - Materials and methods used in the study
 - Type of study
- d) Findings.

He suggests that the findings section is more valuable than other sections.

According to Michael Shapiro (1988 cited in Garrison, 1989: 319), a science writing researchers at Cornell University, there are two concepts in writing science articles that have an influence on a person's interest:

- a) Relevance of the subject. The writer must show the readers how the subject is important to them.
- b) Entertainment value of the article. The article must satisfy reader's need for stimulation.

Context of the Feature Genre Investigated

Knowledge of the conventions of a genre and their rationale seems to be much greater in those who routinely or professionally operate within that genre (Swales, 1990 and Bhatia, 1991, 1993a, 1993b). As a consequence, in order to reveal the regularities of organization in the feature genre investigated, the researcher interviewed the chief

sub-editor of the Outlook section, Ms Normita Thongtham, who routinely and professionally operates within the genre.

Since the chief sub-editor was very busy, she preferred to be interviewed on the phone. In the phone interview, Thongtham (2006) revealed that the feature articles published in the sub-section 'Health and Fitness' in the 'Outlook' section of the *Bangkok Post* are written by many different foreign feature writers of different news agencies, such as Associated Press, Associated French Press, Reuters, New York Times News Service and news@nature.com, which provide the wireless sources from which the *Bangkok Post* buys the feature articles. However, she stated that all the features published, including the ones investigated in this study, were only chosen by her. She is not responsible for writing the articles but only for choosing them, editing them, signing them and having the pages laid out, checking the finished pages and signing them out for publication.

Since the sub-editor is the person responsible for choosing the foreign features to fill the page, she admits that there is some time pressure on her to read and choose the features for the publication that fit the readers' and the publisher's requirements. The reason is that there is only one page for presenting the features while there are a great number of medical news articles from which to choose for publication. Thus, the sub-editor has to make a decision to select a topic or an issue that affects the general public and is also important, interesting and beneficial to society (Thongtham, 2006). As Hutchison (1996) says, feature topics should be based on the needs and interests of the readers.

According to Thongtham (2006), the feature articles investigated vary in length, depending on their content and the space allocated in the newspaper. The board structure of a health feature article comprises a title called a headline, a sub-headline, the beginning called the lead or intro, the body of the articles and the ending. Headlines and sub-headlines, which mostly appear to indicate the results of the studies, are intended to attract the reader's eye and summarize the point of the article.

In addition, Thongtham (2006) comments that the structure and presentation are very important for the writing consideration in order to make the features most interesting and understandable. As a result, good features should have an interesting introduction, clear body, and a definite conclusion. However, because of space limitations, i.e. the space available on a particular day, some details must be cut if there is no space available.

Thongtham (2006) said that there was no specific structure for feature articles. In fact, there is no difference between the basic structure for feature writing in health and fitness writing and in other forms of feature writing. She said, however, that features are expected to follow the inverted pyramid pattern with an ending as follows:

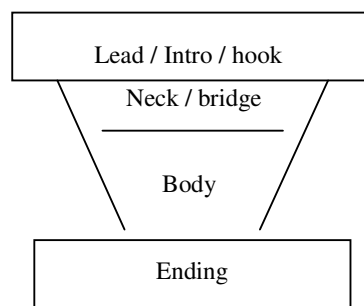


Figure 3 The Inverted Pyramid of Feature Article

Source: Williamson (1975: 40)

In fact, the inverted pyramid pattern is usually for news reporting and many features follow a similar form (Williamson, 1975). According to Williamson, the purpose of the pattern in descending order of importance is to provide the reader the most important information immediately and, hopefully, to keep his interest while it also allows the copy desk to cut less important details quickly from the bottom. In addition, Hick (1999: 16) claims that the purpose of the inverted pyramid is to enable readers to stop reading when they have satisfied their curiosity without worrying that something important has been held back. To put it another way, news is written so

that sub-editors can cut the bottom portions of stories without losing something important.

Thongtham (2006) went on to say in the interview that feature articles about health and fitness are intended for educated men and women between 20-50 who have a high interest in their health and fitness but have no medical background. All of the features in the *Bangkok Post* must be interesting and entertaining. They must also provide beneficial and reliable information and knowledge to the public.

Finally, the relationship between feature writers and their readers must be considered. Ramsey (1994) points out that a level of formality is established and maintained through different expressions of language. In other words, the level of formality, which means the distance between the writer and readers, can be realized by the use of language in the text. In the case of writers and the readers of health and fitness feature articles, the relationship is quite formal since there is some distance between the writers and the readers because the articles are related to research articles, which are formal written texts.

Ramsey (1994) also points out that since feature writers aim not only to present information and knowledge but also to keep the text interesting and easy to read, features are presented in the form of short paragraphs. However, it is also necessary to make the text truthful and accurate since those who read the articles will follow the suggestions. As a consequence, the information presented in the texts has to be derived from many sources based on reliable medical studies.

In sum, the approach in genre analysis of this study follows the work of Bhatia suggested in his 1991 and 1993 studies. Since this study mainly aims to investigate genre of the feature articles presenting research, the framework in move identification is based on the genre-based studies in research introductions of Swales (1990) and research discussions of Hopkins and Dudley (1988). Also, the identification of communicative purposes of the investigated genre is mainly based on the personal interview with Ms. Normita Thongtham, who as sub-editor, routinely works

professionally with the genre of feature articles at the *Bangkok Post* and may be considered as an active discourse community member with the great genre-specific expertise. In addition, the communicative purposes of the feature genre are derived from reviewing how-to books for feature writing, namely Patterson, 1956; Garrison, 1989; Ramsey, 1994; Hennessy, 1997 and Delin, 2000.

CHAPTER III

RESEARCH METHODOLOGY

The purpose of this chapter is to describe the research methodology used in this study. It is divided into three parts. The first part focuses on the data collection procedure. Then, data analysis is presented. In the final section, reliability and validity of the study are described.

Data Collection Procedures

The main purpose of the research is to assist non-native English speakers, especially Thai doctors, scientists or researchers, in writing and publishing studies of their own, especially about health and fitness, for the community. Therefore, feature articles presenting research on health and fitness were used as the data for the analysis. This kind of feature article is published weekly on Mondays in the 'Health and Fitness' sub-section of the Outlook Section of the *Bangkok Post*.

In order to achieve the purpose of the study, all feature articles in the 'Health and Fitness' column from January through June 2003 were obtained from the database of the *Bangkok Post*. This period was chosen since the researcher started doing the study at that time. The researcher started collecting the data in June 2003, which was the month in which she started her research proposal, and then went back to collect feature articles published in the six months previous. The data for the analysis was restricted to a period of six months because the researcher believed that this period would offer an adequate number of representative articles for analysis. A total of 67 features about health and fitness were found. These were then purposively screened to obtain only those whose theme was presenting research. The result was that there were 29 features that could be used for the analysis. It was felt that this number was adequate to represent the population.

Data Analysis

To undertake a comprehensive investigation of the unfamiliar genre of feature articles about health and fitness, the seven-step framework suggested by Bhatia (1993) was applied to identify patterns of moves in health features as below:

First, the researcher interviewed Ms Normita Thongtham, the chief sub-editor of the Outlook section of the *Bangkok Post*. Ms Thongtham was as an important source of insight to obtain explanations of why the genre is conventionally written the way it is because she routinely and professionally operates within the feature genre. Second, the researcher surveyed existing literature on linguistic analyses of the genre or other related or similar genres; methods or theories of linguistic, discourse, and genre analysis; practitioner advice, and guide books. Third, the research refined situational or contextual analysis by:

- a) defining the writer of the text, the audience, their relationship and their goals;
- b) defining the historical, social, economic, political and occupational placement of the community in which the discourse took place;
- c) identifying the network of surrounding texts and linguistic traditions that form the background to this particular discourse; and
- d) identifying the topic which the text was trying to represent, change or use, and the text's relationship to that reality.

Next, the researcher selected the corpus that corresponds to the purpose of the study, which was to investigate the feature articles presenting research on health and fitness.

Then, the researcher studied institutional context in which the feature genre was used and the rules and conventions that govern the use of language in the feature article published by the *Bangkok Post*.

The next step was that the research investigated the regularities of organization in the feature genre which reveal how the overall message was structured in order to communicate the intention of the author. The regularities of organization play an important role in cognitive structure of feature genre because it reflects the strategies that the feature writers, who are members of a professional community, typically use in the construction and understanding of the health feature genre to achieve its communicative purposes. However, in order to reveal the regularities of organization, which are moves and steps found in the genre of feature articles presenting research on health and fitness, the criteria for identifying each move and step were first established. The criteria in move identification are presented in Figure 4:

Move: Establishing a Topic

The communicative purpose of this move is to make a claim or a counter-claim against the research under discussion in order to attract the reader's interest.

Move: Supporting the Claim

The communicative purpose of this move is to provide the readers with some supporting information, situation, fact, details, opinions and references in order to clarify the research result so that credibility of the research under discussion is established and then the reader's interest is held.

Move: Presenting the Counter-Claim

The communicating intention of the writer in this move is to introduce an idea which contradicts or questions the research result under discussion, which serves to hold the reader's attention, and to present a balanced view of the research.

Move: Making Recommendation

This move aims to make some suggestions on the topic under discussion and end the article.

Figure 4 The Criteria in Identifying Moves and Steps in the Corpus of Feature Articles

To reveal ways of communicating intention in feature writing, the structure of the feature genre was studied by using the criteria set earlier in order to find the obligatory and optional moves of this genre. Identification of each move was based on a particular communicative purpose or communicating intention of the feature writer. Moves that occurred with 100% frequency were identified as ‘obligatory moves’ while those that occurred with less than 100 % in frequency were defined as ‘optional moves’. In addition, a computerized concordancing program named ‘Oxford WordSmith Tools Version 4.0’ by Scott (2004) was employed to identify the distinguishing linguistic features that signal and characterize each move and step. Also, the frequencies of occurrence and sequence of moves were investigated.

Reliability and Validity Measurement

The computerized concordancing program named ‘Oxford WordSmith Tools Version 4.0’ by Scott (2004) enabled the researcher to bring the reliability to the present study since it brings the validity to the criteria in the genre identification. That is the sub-program, called ‘WordList’, generated frequency word lists based on text files of the linguistic features of each particular move and sub-move found in the corpus. The ‘WordList’ program enables the researcher to find out the high frequency words that signal and characterize each particular move. The other sub-program called ‘Concord’ was also used to identify the collocation of the significant words that signal the moves and sub-moves.

Moreover, to assure the validity of the instrument in measuring what it is intended to measure, the criteria or framework for genre identification were verified by the thesis advisor, the other thesis committee members, and the specialist informants in linguistics and genre theory.

After the feature articles were analyzed, the findings of the investigation were also confirmed to bring reliability and validity to the study by double checking the result with three inter-raters, who were ESP graduate students who had been well-trained in and had good background knowledge of genre theory. Fifteen analyzed

feature articles were randomly selected as examples for checking inter-rater reliability, five of the selected articles were presented to each inter-rater with the criteria, and they checked whether they agreed or disagreed with the analysis.

To obtain inter-rater reliability, the agreement on the move segmentation had to be above 0.85 (Krippendorff, 1980). Reliability was calculated according to the formula below:

$$\text{Reliability} = \frac{X1 + X2 + X3}{3N}$$

X1, X2, X3 = the number of articles that individual raters agreed on move segmentation.

N = the total number of articles copy in the corpus

After calculation, the reliability of the agreement on the move segmentation came out as below:

$$\text{Reliability} = \frac{5+4+4}{3(5)} = \frac{13}{15} = 0.87$$

Since the agreement on the move segmentation came out at above 0.85, the present study can be considered valid and reliable.

After the present study had been accomplished, it was presented to Ms Normita Thangtham, the chief sub-editor at the *Bangkok Post*, to get her agreement on the study.

CHAPTER IV

RESULTS AND DISCUSSIONS

The main objective of this study was to investigate the genre of feature articles presenting research on health and fitness. Therefore, this study aimed to identify moves and steps, together with their communicative purposes, of the feature articles investigated, to analyze patterns of move orders of health feature articles in the corpus, to examine the frequencies of occurrence of moves and steps in the features, and to investigate the distinguishing linguistic features that signal and characterize moves and steps.

As a result, this chapter presents five main parts of the research findings in response to the objective of the study. The first section explains the communicative purposes of the feature articles investigated. The second section describes the moves and steps found in the corpus and the communicative purpose of each move and the key linguistic features that signal and characterize each move and step. The third section presents an analysis of the patterns of move orders found in the investigated feature articles. The fourth section examines the frequencies of moves, sub-moves and steps. The final section discusses and compares the findings of the study to other related ones.

Communicative Purposes of the Feature Articles Investigated

Drawing from literature reviews and interviewing the specialist informant in the feature genre investigated. The research found that the main communicative intention of a feature writer is to give the reader something interesting and entertaining to read. Thus, the communicative purposes of the feature articles investigated are to give medical information and entertain the readers. As a consequence, it is worth noting that the feature articles investigated must achieve the following communicative purposes in order to succeed:

a) The purpose of the feature is not only to inform but also to catch the eye of the reader. Newspaper readers do not read everything in the newspaper. They read only what they are interested in or what affects their lives. Therefore, a feature should arouse the readers' interest, even if they have no need for this kind of health information.

b) Also, readers are generally most interested in what affects them, and what affects them is very likely to be something close to them. Consequently, in order to hold the reader's attention, the writer must enable the reader to see himself as benefiting or being endangered by the new discovery or the result of the scientist's research. This means the feature writer must try to get the reader personally involved by showing the reader how relevant the subject is to them; how it can affect their lives; how important it is to them; and how they can benefit from it or what dangers it poses.

c) Although the readers of health and fitness features may be either sophisticated specialists or the general public, all features need to present background information and a setting in order to give a central idea of what they are about so that the reader is able to follow the articles easily. Moreover, the feature articles should provide some elaboration of the topic under discussion in order to make it easy for the reader to understand the articles

d) In order to gain confidence and assure the reader of the reliability of the information reported, there should be references to authorities' comments and critiques in the field of the topic under discussion as back-up evidence.

Moves and Steps Found in the Investigated Feature Articles

The criteria set earlier were employed in identifying the moves and steps in the feature articles in the corpus. The analysis was presented in Appendix A and the moves and steps found in the features investigated are shown in Figure 5:

Move 1: Establishing a Topic

- Step 1 Reporting a Claim of the Research under Discussion
and/ or
- Step 2 Reporting a Counter-Claim against the Research under discussion

Move 2: Supporting the Claim

- Sub-move 1 Stating the Research Results under Discussion
 - Step 1 Reporting the Highlight of the Result in General Terms
and/ or
 - Step 2 Reporting an Elaboration of Specific Results
- Sub-move 2 Introducing Background Information/ Existing Knowledge
- Sub-move 3 Presenting Further Information Related to the Research under Discussion
 - Step 1 Reporting Extra Information Related to the Research under Discussion
and/ or
 - Step 2 Reporting the Rationale of the Research under Discussion
and/ or
 - Step 3 Reporting the Methodology of the Research under Discussion
- Sub-move 4 Giving Supporting References
 - Step 1 Referring to the Supporting Statements of the Research Results in other Studies
and/ or
 - Step 2 Citing Supporting Comments/ Assessments on the Research/ Result under Discussion

Move 3: Presenting the Counter-Claim

- Step 1 Pointing out the Weakness(es) of the Research/ Result under Discussion
and/ or
- Step 2 Referring to Statements Opposing the Research Results in other Studies/ Existing Knowledge
and/ or
- Step 3 Citing Comments/ Assessments Opposing the Research/ Result under Discussion

Move 4: Making Recommendations

- Step 1 Reporting on Suggestions Made by the Researcher under Discussion
and/ or
- Step 2 Giving Suggestions to the Reader

Figure 5 Moves and Steps Found in the Investigated Feature Articles

The total moves shown in Figure 5 may be summarized as follows:

Move 1: Establishing a Topic

Move 2: Supporting the Claim

Move 3: Presenting a Counter-Claim

Move 4: Making Recommendation

Identification of each move was based on the particular purpose the feature writers intended to communicate in order to achieve the overall communicative purposes of the feature genre mentioned earlier. However, in order to assure the validity and reliability of the structural analysis of the feature genre, key linguistic features such as reporting verbs, modal verbs, linking adverbial and lexical signals had to be studied in order to identify each move and sub-move. Therefore, in order to identify the key linguistic features that signal and characterize each move and step, the computerized concordancing program named 'Oxford WordSmith Tools Version 4.0' was employed to reveal the lists of words and their frequencies found in the investigated corpus. The results of the analysis with the program were as follows:

The total number of words in the corpus was 112,516.

The corpus of Move 1 'Establishing a Topic' consisted of a total 6,545 words.

The corpus of Sub-move 1 'Stating the Research Result under Discussion' in Move 2 'Supporting the Claim' consisted of a total 31,953 words.

The corpus of Sub-move 2 'Introducing Background Information/ Existing Knowledge' in Move 2 'Supporting the Claim' consisted of a total 7,641 words.

The corpus of Sub-move 3 'Presenting Further Information Related to the Research under Discussion' in Move 2 'Supporting the Claim' consisted of a total 24,229 words.

The corpus of Sub-move 4 ‘Giving Supporting References’ in Move 2 ‘Supporting the Claim’ consisted of a total of 25,673 words.

The corpus of Move 3 ‘Presenting the Counter-Claim’ consisted of a total 11,390 words.

The corpus of Move 4 ‘Making Recommendation’ consisted of a total 5,184 words.

Description of Moves, Sub-Moves and Steps in the Investigated Feature Articles

A description of moves in the feature articles presenting research on health and fitness, along with a description of their communicative purposes and their distinguishing linguistic features are given below:

Move 1: Establishing a Topic

The major function of this move is to give the central idea, which is the most important facts of what the feature article is all about. Also, its purpose is to arouse the readers’ interests and hold it through the body of the story. In order to achieve its purposes, two steps can be done as below:

Step 1 Reporting a Claim of the Research under Discussion

Step 2 Reporting a Counter-Claim against the Research under discussion

Step 1 aims to report to the reader what has been mainly claimed with who has claimed it while Step 2 aims to report a counter-claim concerning the research under discussion. The realizations of these two steps found in the articles analyzed can be broken down into the categories shown as follows:

- a) The use of qualification (26 instances)
- b) The use of ‘according to’(6 instances)
- c) The use of reporting verbs (18 instances)
- d) The use of linking adverbial to establish a contrast (10 instances)
- e) The use of adverb/ adverbial phrases (6 instances): ‘now’ (4 instances),
‘this month’ (1 instance) and ‘in recent year’ (1 instance) to introduce the
claim after the writer had report the counter-claim.

Note: some signals occur in more than one article.

The writing of this move was achieved in five different ways. These ways can be used more than once in order to accomplish the purposes of an article. It can be seen that generally feature articles contain qualification combined with reporting verbs, linking adverbial marking contrast, ‘according to’ or adverb/ adverbial phrases.

In making a claim, the strength of the claim must be appropriate to the research result. In some cases, as Swales and Feak (1994) say, to make an appropriate claim is to be confidently uncertain by qualifying or moderating a claim. Qualification reduces the strength of the claim and distances the writer from the data in written academic English (Swales and Feak, 1994). The distinguishing linguistic features that help to express qualifications are shown in Table 1:

Table 1 Words Indicating Probability Used to Qualify Claims Found in the Corpus

Qualification of a Claim	No. of Occurrence
May	10
Can	6
To be likely to	4
Will	3
Could	3
Total	26

Note: Number of occurrence was initially counted by the researcher and double

checked by the ‘WordSmith Tools’ computerized concordancing program.

It is worth noting that ‘may’, as the table shows, is used with the greatest frequency in the feature articles analyzed. The following patterns in Figure 6 are examples of how probability found in the corpus were used to qualify the claims.

N Concordance	
1	People with high cholesterol <u>may</u> lower their levels by a surprising
2	more ways than they realise. While many <u>may</u> know that excess kilograms raise the
3	help produce the sense of pleasure, which <u>may</u> help explain why cocaine addicts have
4	drug combined with a reduced-calorie diet <u>may</u> result in significant weight loss for
5	to a single genetic mutation, a finding that <u>may</u> help science learn more about normal
6	benign. While a fall during a seizure <u>may</u> cause injury, the surge of electricity in
7	damage in very small premature babies <u>may</u> decrease over time, according to
8	and the condition, while rare, <u>may</u> occur more often than doctors believed,
9	book or a challenging crossword puzzle <u>may</u> keep your mind more than busy. It may
10	may keep your mind more than busy. It <u>may</u> keep it healthy, too, according to a
N Concordance	
1	health problems, now a host of cancers <u>can</u> be firmly added to the list. Scientists
2	added to the list. Scientists know drinking <u>can</u> prevent heart attacks, but new research
3	have long suspected: Chemotherapy <u>can</u> , in some cases, cause problems with
4	now suggests that repeated seizures <u>can</u> harm the brain _ or, in rare cases, even
5	it that the yellow root, known as huangqi, <u>can</u> control swelling and promote
6	that offering chemotherapy after surgery <u>can</u> modestly improve the survival of people

Figure 6 Language Patterns for Probability Using ‘May’ and ‘Can’ Found in the Corpus

‘May’ and ‘can’ have a number of functions, but the most basic senses of the modals are probability, permission and ability. However, from Figure 6, it is clear that ‘may’ and ‘can’ employed in the investigated articles are used in the sense of probability to qualify a claim.

Distance is another way of a writer evades responsibility for a strong claim. In six instances, writers of feature articles distanced themselves from claims through the use of ‘according to’. The claim was thus attributed to the researcher rather than the writer of the article. The language pattern for distancing a writer from a claim is presented in Figure 7:

N Concordance	
1	night, for the child is likely to sleep badly, according to a study that adds, however,
2	in significant weight loss for obese adults, according to one of several obesity studies
3	across the United States each year, according to the biggest study of the
4	premature babies may decrease over time, according to research that tracked children
5	more than busy. It may keep it healthy, too, according to a 21-year study of mental
6	decline in advanced Alzheimer's patients, according to a study of what could be the

Figure 7 A Language Pattern for Distancing a Writer from a Claim Using
'According to' Found in the Corpus

In addition, this move can be realized by using reported speech to report a claim of the researcher to the readers. The reporting verbs were as follows:

Table 2 List of Reporting Verbs Found in the Corpus

Reporting Verbs	No. of occurrence
Show/ showed/ has shown	6
Found/ has found	6
Suggested/ suggest	3
Reported	2
Indicating	1
Total	18

The following patterns are examples of how reporting verbs found in the corpus were used with in this move.

N Concordance	
1	a stroke than daily shavers, a new study <u>shows</u> . Just take three fewer bites of that
2	lose weight. But as the sobering statistics <u>show</u> , it is more easily said than done.
3	prevent heart attacks, but new research <u>shows</u> that how often you imbibe is a lot
4	with no warning. But new research has <u>shown</u> that seizures start with a tiny spark
5	study of heart disease in older men <u>showed</u> . For several decades, experts have
6	ailment. A large international study has <u>shown</u> for the first time that offering
N Concordance	
1	plenty of soy and soluble fibre, a study <u>found</u> . Parents who feed their newborn baby
2	depression, a study suggests. A study has <u>found</u> a startling level of despair among
3	scientists reported that two clinical trials <u>found</u> the high-fat, high-protein,
4	it an inevitable part of ageing, a study <u>found</u> . For years, doctors have reassured
5	tracked children until the age of eight and <u>found</u> substantial mental gains. The
6	of Rochester, said he and colleagues <u>found</u> the opposite. An absorbing book or a

Figure 8 Language Patterns for Reporting a Result Using ‘Show’ and ‘Found’ Found in the Corpus

It’s worth pointing out that the use of reporting verbs to report a claim can be demonstrated in both present and past tense.

It can be noted that ‘show’ and ‘found’ are frequently employed in reporting claims of research to readers. Moreover, from Figure 7, it can be concluded that the agents of the reported verbs are most frequently as follows: a study, research, researchers, scientists, evidence and the statistics which are all agents of the research.

This move can also be realized by linking adverbials marking contrast. Whenever, the feature writers introduce a counter-claim by referring to the existing knowledge, linking adverbials marking contrast are likely to be used stating a claim of the research under discussion. Only two adverbials marking contrast were used in the articles analyzed; however, ‘but’ is the one that seems to be used with high frequency in stating a contrast. The uses of linking adverbials marking contrast found in the corpus were shown below in Table 3:

Table 3 List of Linking Adverbials Marking Contrasts Found in the Corpus

Linking Adverbials Marking Contrast	No. of Occurrence
But	9
While	1
Total	10

The following pattern is an example of how linking adverbial marking contrast like ‘but’ found in the corpus was used within this move.

N	Concordance
1	counts. It sounds easy to lose weight. <u>But</u> as the sobering statistics show, it is
2	know drinking can prevent heart attacks. <u>but</u> new research shows that how often you
3	Hearing loss in the elderly is easily treated <u>but</u> often under-diagnosed by doctors who
4	does no actual damage, patients were told. <u>But</u> mounting evidence now suggests that
5	came on suddenly, with no warning. <u>But</u> new research has shown that seizures
6	equation as well, not to create babies <u>but</u> to develop stem cells for medical
7	most likely to develop in late childhood. <u>But</u> Dr Steven Lipshultz of the University of
8	study of mental breakdown in old age. <u>But</u> now he and other public health doctors
9	most effective in warding off heart disease. <u>But</u> in recent years, new evidence has

Figure 9 Language Pattern for Making Contrasts Using ‘But’ Found in the Corpus

Move 2: Supporting the Claim

The main purpose of this move is to provide the reader with some statistical evidence, explanation, further information and references to support the claim of the research under discussion. Consequently, this move contains four sub-moves with their particular purposes to support the claim. The four sub-moves are presented below:

Sub-move 1 Stating the Research Result under Discussion

Sub-move 2 Introducing Background Information/ Existing Knowledge

Sub-move 3 Presenting Further Information Related to the Research under Discussion

Sub-move 4 Giving Supporting References

Sub-move 1 Stating the Research Result under Discussion

This sub-move aims to report the research result under discussion in general terms. In the articles analyzed, two optional steps were found to be used in order to achieve the purpose of this sub-move.

Step 1 Reporting the Highlight of the Result in General Terms

Step 2 Reporting an Elaboration of Specific Results

In Step 1, the feature writers aim to report to the readers the main findings of the research under discussion and the people who made the findings while the central aim of Step 2 is to provide the readers with more specific details and some explanation on the topic under discussion in order to illustrate the points of what the writers are talking about.

The purpose of reporting more specific details is to give additional information on the topic under discussion and additional statements of results of the research under discussion, including numbers, percentages, and examples in order to clarify the topic under discussion to the readers.

To realize this sub-move, in both steps, there are three means that can be done:

- a) the use of reporting verbs (81 instances)
- b) qualifying comparisons (45 instances)

Note: some signals occur in more than one article.

In order to report research result, the reporting verbs tend to be frequently employed once again in this step. Thereby, the reporting verbs, especially ‘found’ and ‘show’ are frequently used like in Move1 ‘Establishing a Topic’. List of reporting verbs are illustrated in Table 4:

Table 4 List of Reporting Verbs Found in the Corpus

Reporting Verbs	No. of Occurrence
Said	31
Found/ have found/ be found	24
Show/ shows/ showed	14
Discovered	3
Reported	3
Indicate / indicates	3
Noted	2
Has revealed	1
Total	81

From Table 4, it can be noticed that ‘said’, ‘found’ and ‘show’ tend to be mostly employed to have the purposes of this sub-move achieved. Also, it is clear that most of the reporting verbs are reported in past simple tense while ‘show’ can be often used in present tense as well.

The following patterns are examples of how reporting verbs found in the corpus were used within this sub-move.

N Concordance	
1	in people on the Portfolio diet. Kendall <u>said</u> volunteers found the diet extremely
2	group in which there was no programme. <u>said</u> that men who did not shave every day
3	who did not shave daily, but the scientists <u>said</u> this did not explain their substantially
4	of the department of social medicine, <u>said</u> in a statement. He said the association
5	of social medicine, said in a statement. He <u>said</u> the association with stroke did not fall
6	factors and remained unexplained. Ebrahim <u>said</u> the link between circulating sex
7	his girlfriend on the Scottish mainland. He <u>said</u> the low frequency of orgasm in men
8	for his discovery of the fat hormone leptin, <u>said</u> the body will do its best to compensate
9	to lose substantial amounts of weight," he <u>said</u> . "They are being thwarted by this
10	reported a low quality of life," Schwimmer <u>said</u> . Parents answered the same
11	lower than the youngsters' self-ratings, he <u>said</u> . In the Duke University study,
12	so more people are having problems," <u>said</u> Dr Tim Ahles, a psychologist at the
13	kinds of chemotherapy, the researchers <u>said</u> . The studies suggest that the risk of
14	of the diseases. Linking LMNA to ageing, <u>said</u> Collins, means that studying the gene
N Concordance	
1	the Portfolio diet. Kendall said volunteers <u>found</u> the diet extremely filling, and several
2	sleep three months later. The doctors <u>found</u> , however, that by using a simple
3	in addition to melanoma _ was no link <u>found</u> to excess weight. In fact, heavier men
4	in The New England Journal of Medicine, <u>found</u> a direct relationship between the
5	it is the alcohol itself, and not something <u>found</u> only in red wine, such as red pigment,
6	important discovery. Various studies have <u>found</u> that 20 to 30 percent of women who
7	later surgery for other problems. The study <u>found</u> that emergency operations are nine
8	weight loss. Collins and his co-authors <u>found</u> the mutation on a gene called lamin A
9	genes of the father's sperm. He said they <u>found</u> 18 of the patients shared the same
10	loss receive hearing aids, the study <u>found</u> . The condition can impair hearing, is
11	tests of verbal function and IQ, the study <u>found</u> . Children who received early
12	mothers had high levels of education were <u>found</u> to experience the greatest
13	Less significant improvements were <u>found</u> in children born with bleeding in the
14	the highest blood pressure, Martin's team <u>found</u> . High blood pressure can lead to
N Concordance	
1	vegetarian regimen that emphasises foods <u>shown</u> individually to be beneficial _ soy,
2	raised risk of strokes. The findings <u>show</u> that men who don't shave every day
3	index over 40. Deaths from uterine cancer <u>showed</u> a similar pattern, with a six-fold
4	more weight, faster. But the new studies <u>showed</u> for the first time in randomised
5	cream. That is why, as the new studies <u>show</u> , Atkins adherents eat fewer calories
6	researchers from Arizona State University <u>showed</u> that they could predict more than 80
7	in the New England Journal of Medicine <u>showed</u> that although the low-carbohydrate
8	in steak and eggs and other high fat foods, <u>showed</u> that people who followed the
9	Nutrition, supports several others that <u>show</u> substituting cow's milk for breast milk
10	orange juice could substitute. Initial tests <u>showed</u> no effect on young mice. Then the
11	on a stainless steel surface. "This study <u>shows</u> that children are about 10 times more
12	to 18 combined," he added. "This study <u>shows</u> that expert opinion from around the
13	with moderate-to-severe Alzheimer's <u>showed</u> it slowed deterioration from the
14	as much, Reisberg said. The findings also <u>showed</u> the burden on caregivers was

Figure 10 Language Patterns for Reporting a Result Using 'Said', 'Found' and 'Show' Found in the Corpus

Qualifying comparison is another kind of qualification that can be employed in data commentary, instead of reporting data in words, to illustrate the readers in general terms how important the new research result is and how much it can affect the readers' lives. Qualifying comparisons are shown in Table 5:

Table 5 List of Linguistic Signals Giving Comparisons Found in the Corpus

Linguistic Signals Giving Comparisons	No. of Occurrence	Linguistic Signals Giving Comparisons	No. of Occurrence
More than	10	Lower than	5
To be more/ less likely to	8	Less than	3
Higher than	6	As little/much as	3
Fewer than	5	Greater than	2
		Similar to	2
Total	44		

The following patterns are examples of how qualifying comparison found in the corpus were used within this sub-move.

N Concordance	
1	that newborns who had been fed <u>more than</u> 11 times during 24 hours in their
2	fatty deposits build up in the arteries. <u>More than</u> 60 percent of Americans are
3	percent of Americans are overweight. And <u>more than</u> 30 percent are obese, meaning
4	that their health is at real risk. Worldwide, <u>more than</u> 300 million people are obese,
5	in those with an index of 35 to 40 and <u>more than</u> twice as high in those with an
6	noted that study participants had a <u>more than</u> a five-fold increased risk of
7	survivors seem to report the problem <u>more than</u> people with other cancers,
8	with magnetic resonance imaging for <u>more than</u> three years, experienced
9	University showed that they could predict <u>more than</u> 80 percent of seizures with a
10	warnings of impending surges occurred <u>more than</u> an hour before the seizure, said
N Concordance	
1	that men who don't shave every day are <u>less likely</u> to be married and are more likely
2	In fact, heavier men and women were <u>less likely</u> to die of lung cancer than those
3	men who did not shave every day were <u>more likely</u> to suffer a heart attack or stroke.
4	day are less likely to be married and are <u>more likely</u> to be blue-collar workers. They
5	tend to be thinner but are also much <u>more likely</u> to die of lung cancer than
6	that emergency operations are nine times <u>more likely</u> to lead to such mistakes, and
7	a change in procedure are four times <u>more likely</u> . A rise of one point in
8	shows that children are about 10 times <u>more likely</u> to develop cardiomyopathy

Figure 11 Language Patterns for Linguistic Signals Stating the Comparison of the Result Using 'More Than' and 'More/ Less Likely to' Found in the Corpus

However, each step also comprises of its distinguishing linguistic features that can make the realization of each step different from the other. Linguistic features that make Step 1, Reporting the Highlight of the Result in General Terms, different from Step 2, Reporting an Elaboration of Specific Results, is the use of ‘according to’ (2 instances) and the use of special lexis ‘discovery’ (2 instances) to report the readers what is mainly found in the research under discussion.

Step 2 is another optional mean for feature writers to achieve the purpose of this sub-move but the purpose of this step emphasize on reporting more specific details. Consequently, this step is often realized by the use of the distinguishing linguistic signals listed below:

- a) adverbial phrases giving additional information (166 instances)
- b) adverbial phrases giving examples (7 instances)
- c) linguistic features giving explanation (24 instances)

Note: some signals occur in more than one article.

Reporting more specific details is to give additional information on the topic under discussion and additional statements of results of the research under discussion, including numbers, percentage, and some examples in order that the topic under discussion is clarified to the readers. The linguistic features that report specific details to achieve the communicative purpose of this step are shown in Table 6-7 as follows:

Table 6 List of Linguistic Signals Giving Additional Information Found in the Corpus

Linguistic Signals Giving Additional Information	No. of Occurrence
And	134
Also	18
Include/ Including/ Including	11
Further	2
In Addition to	1
Total	166

The following patterns are examples of how linguistic features giving additional information found in the corpus were used within this sub-move.

N Concordance	
1	onions and red peppers. Volunteers <u>also</u> got Metamucil three times a day.
2	more likely to be blue-collar workers. They <u>also</u> have fewer orgasms, tend to be shorter,
3	factors, but a small hormonal effect may <u>also</u> exist," Professor Shah Ebrahim, of the
4	and non-Hodgkin's lymphoma _ are <u>also</u> linked to excess weight and obesity.
5	because smokers tend to be thinner but are <u>also</u> much more likely to die of lung cancer
6	of oesophageal cancer. Obesity <u>also</u> increases the risk of developing
7	it with your meal or at some other time <u>also</u> appears irrele-vant. Those who drank at
8	of communication. The research has <u>also</u> centred on breast cancer because of its
9	operating table, the researchers reported. It <u>also</u> happens more often to fat patients,
10	Most lost objects were sponges, but <u>also</u> included were metal clamps and
11	triglyceride levels fell. Insulin sensitivity <u>also</u> improved _ again, no surprise when
12	to keep arteries clear of fatty deposits. <u>Also</u> , while it may be easy to overeat or
13	the low-carbohydrate eating plan for a year <u>also</u> raised their levels of HDL cholesterol,
14	drug called enalapril can help. His team <u>also</u> found the incidence of cardiomyopathy
N Concordance	
1	and almonds. Sources of soluble fibre <u>include</u> oats, barley, legumes, eggplant, okra
2	yoghurt or soy milk. A typical breakfast <u>included</u> oat bran, fruit and soy milk, lunch
3	deaths from a wide variety of cancers _ <u>including</u> those of the colon and rectum,
4	estimate derived from findings that <u>include</u> current and former smokers. If only
5	point out, ``potential biologic mechanisms <u>include</u> increased levels of endogenous
6	Most lost objects were sponges, but also <u>included</u> were metal clamps and electrodes.
7	older patients. Some types of hearing loss, <u>including</u> gradual nerve-related impairment,
8	by 7 percent. Nearly all physical activities, <u>including</u> stair climbing and group exercise,
9	noted. Foods rich in monounsaturates <u>include</u> olive, canola, nut and avocado oils
10	walnuts); oils rich in polyunsaturates <u>include</u> safflower, soya bean, corn and
11	Potential benefits of omega-3 fatty acids <u>include</u> prevention of abnormal heart

Figure 12 Language Patterns for Linguistic Signals Giving Additional Information Using ‘Also’ and ‘Include’ Found in the Corpus

Table 7 List of Linguistic Signals Giving Examples Found in the Corpus

Linguistic Signals Giving Examples	No. of Occurrence
Like	4
For example	1
Such as	1
And so on	1
Total	7

Reporting the explanation is to provide the readers with the cause and reasons in a way that is clear and easy to understand the topic under discussion. The linguistic features for giving explanation are shown in Table 8:

Table 8 List of Linguistic Features Giving Explanation Found in the Corpus

Linguistic Features Giving Explanation	No. of Occurrence
Because	12
Explain	4
Means/ meaning	4
To be due to	2
That is why	1
In other words	1
Total	24

The following pattern is an example of how linguistic feature giving explanation like ‘because’ found in the corpus was used within this sub-move.

N Concordance	
1	men who did not shave regularly might be <u>because</u> they had low levels of testosterone
2	than those of normal weight, probably <u>because</u> smokers tend to be thinner but are
3	the death rates may be a delay in diagnosis <u>because</u> it is hard to find cancers under
4	under layers of body fat or, perhaps, <u>because</u> seriously overweight people may
5	doctors say, but they suspect this may be <u>because</u> the breast cancer patients are such
6	research has also centred on breast cancer <u>because</u> of its high survival rate, though the
7	occurs in people with other cancers, <u>because</u> they receive the same kinds of
8	happens more often to fat patients, simply <u>because</u> there is more room inside them to
9	room_ and patients might not bring it up. `` <u>Because</u> it's so gradual, people say, `It's OK,
10	``The regional differences are important <u>because</u> that suggests there may be
11	exception was frequent dancing, perhaps <u>because</u> dance music engages the dancer's
12	is not the answer, Hu and Willett wrote, <u>because</u> such a change raises triglyceride

Figure 13 Language Pattern for Linguistic Signals Giving Reason Using ‘Because’ Found in the Corpus

Sub-move 2 Introducing Background Information/ Existing Knowledge

Providing readers with some background or existing knowledge on the topic under discussion helps them understand the situation that the feature article is about. Moreover, since the articles investigated are a technical writing, the feature writers need to give background information to illustrate the topic to the readers. Background information is usually marked by the use of the following distinguishing linguistic features:

- a) passive voice used in both full form and past participle form (17 instances)
- b) present simple and present perfect tense (17 instances)

Table 9 List of Past Participle Giving Background Information Found in the Corpus

Verbs Giving Background Information	No. of Occurrence	Verbs Giving Background Information	No. of Occurrence
Caused by	4	Marked by	1
Called	3	Teased about	1
Known to	2	Characterized by	1
Linked to	2	Found by	1
Approved for	2		
Total	17		

The following pattern is an example of how past participle giving background information like ‘caused’ found in the corpus was used within this sub-move.

N Concordance	
1	Hutchinson-Gilford progeria syndrome, is caused by a single ``misspelling" or
2	also quickly age and death is usually caused by heart disease or stroke at an
3	hearing loss also occurs in older adults, caused by common conditions including
4	disease, he said. Cardiomyopathy can be caused by viruses, certain diseases, or by a

Figure 14 Language Pattern for Stating the Cause of the Topic under Discussion

Using ‘Caused by’ Found in the Corpus

It's worth mentioning that the features investigated are varied in content. Therefore, their background knowledge and information are also varied. This is a reason why there is a variation in the use of past participle for giving background information found in the corpus. However, on the whole, this move is identified by content of the feature articles which refers to background knowledge concerning the topic under discussion.

Sub-move 3 Presenting Further Information Related to the Research under Discussion

Sub-move 3 aims to give the readers more information on the research under discussion with some concrete evidence in order to support the claim. Moreover, this sub-move functions to highlight the rationale of the research under discussion. It is also unique in that it attempts to provide the methodology of the research under discussion. Therefore, to achieve the purpose of this sub-move, the three following steps may be employed.

Step 1 Reporting Extra Information Related to the Research under Discussion

Step 2 Reporting the Rationale of the Research under Discussion

Step 3 Reporting the Methodology of the Research under Discussion

Step 1 Reporting Extra Information Related to the Research under Discussion

This step can be characterized by the use of passive verb forms to introduce the title of the journal, the names of the researchers, and the name of the organization funding the research (18 instances).

Table 10 List of Verbs Giving Information about the Research Found in the Corpus

Verbs Giving Information of the Research	No. of Occurrence	Verbs Giving Information of the Research	No. of Occurrence
Funded by	4	Done by	1
Published in	4	Made by	1
Reported in	3	Led by	1
Presented at	1	Described in	1
Appear in	1	Sponsored by	1
Total	18		

The following patterns are examples of how verbs giving information about the research found in the corpus were used within this step.

N Concordance	
1	to prevent seizures. The study was funded by Elan Biopharmaceuticals, makers
2	a five-year trial of low-carbohydrate diets, funded by the National Institutes of Health,
3	New England Journal of Medicine. It was funded by the National Institute on Ageing.
4	the researchers. The second study was funded by Forest Laboratories Inc, which
N Concordance	
1	Journal of Psychiatry. The research published in Journal of the American
2	of Public Health, both in Boston. It was published in Thursday's New England
3	College of Medicine in New York City and published in the New England Journal of
4	a British medical journal. The findings were published in the American Heart

Figure 15 Language Patterns for Giving other Information of the Research Using 'Funded By' and 'Published By' Found in the Corpus

From Figure15, it seems to be clear that the use of passive voice also plays an important role in reporting extra information related to the research under discussion. They are used in the full sentences as highly as in the reduced ones; however, reduced relatives are more likely to be preferred because they are shorter and snappier in feature writing.

Step 2 Reporting the Rationale of the Research under Discussion

This step aims to provide information about the purpose and significance of the research under discussion. Moreover, the problem that led to the study under discussion is included in this step. The realization of this step can incorporate the use of references as shown below:

- a) referring to the result of other studies that have been found earlier
- b) referring to the purpose of the study
- c) referring to the significance of the study
- d) referring to a problem, a gap or limitation of the previous studies or existing knowledge

Note: some signals occur in more than one article.

Some typical examples of the linguistic signals of reporting the rationale of the research under discussion are given below in abbreviated form.

A variety of studies suggest...

Recent research shows that...

Recent studies suggest...

The research was prompted by reports of...

In the past decade, research in... has been driven by...

The study results echo recent research in ...

The beneficial aspects of ... is that...

Practitioners and drug makers are now hoping to ...

The hope is to...

The ultimate goal is to...

She did the study to see if...

Researchers are eager to establish....

No one is sure what happens....

The major problem of the old advice was that...

As the above list indicates, feature writers can report the rationale of the research under discussion in a number of ways. They can report the rationale of the research by referring to its purpose or its significance, to the recommendations of other studies creating a need for the research under discussion; or to problems that led to the study under discussion.

The following patterns are examples of how linguistic signals of reporting the rationale of the research found in the corpus were used within this step.

N Concordance	
1	of uncontrolled seizures. Furthermore, <u>recent</u> studies suggest that seizures beget
2	Ment said the study results echo <u>recent</u> research in animals showing that the
3	Gates Foundation, is described in a <u>recent</u> issue of The Lancet, a British medical
N Concordance	
1	of new specimens from the sea every year, <u>hoping</u> at least one of them will be tougher
2	Martin of the University of Bristol The <u>hope</u> is to trick human eggs into believing
3	Practitioners and drugmakers are now <u>hoping</u> to win global respect for their

Figure 16 Language Patterns for Stating Rationale of the Research Using ‘Recent’ and ‘Hope’ Found in the Corpus

Step 3 Reporting the Methodology of the Research under Discussion

To present further information related to the research under discussion, the statements concerning the research methodology are included in terms of what was studied and what research methods were employed. This step can be realized by the use of verbs stating research methodology which can be categorized as follows:

- a) verbs to introduce the data that were studied (18 instances)
- b) verbs to describe the research methodology (15 instances)
- c) verbs to introduce the tools for the analysis (7 instances)

The examples of verbs stating research methodology found in the investigated feature articles are shown in Table 11 as follows:

Table 11 List of Verbs Stating Research Methodology Found in the Corpus

Verbs Introducing the Data	No. of Occurrence	Verbs describing methodology	No. of Occurrence	Verbs Introducing the Tool	No. of Occurrence
Looked at	4	Conducted	3	Were given	3
Studied	4	Compared	2	Rated	2
Followed	4	Collect	2	Detect	1
Examined	2	Measured	2	Fill out	1
Have used	1	Watched	1	Total	7
Analyzed	1	Checked	1		
Were asked	1	Calculated	1		
Had been	1	Counted	1		
gathered		Involved	1		
Total	18	Recorded	1		
		Total	15		

The following patterns are examples of how verbs stating research methodology found in the corpus were used within this step.

N Concordance	
1	podiatrists and veterinarians. He looked at 38,077 of them, eliminating people
2	In the study, Collins said researchers looked at the genetic compliment of 20
3	for several days. When researchers looked at these recordings with standard
4	journal Circulation. Researchers looked at 7,337 men in the long-running
N Concordance	
1	and HDL, which lowers it. Researchers studied 600 healthy British babies and
2	heart or blood vessels. He and colleagues studied brain samples taken during
3	users. In the study, Little and colleagues studied brain-autopsy specimens from an
4	and colleagues followed up on babies first studied between 1972 and 1974. Human egg
N Concordance	
1	Journal of Epidemiology. The study followed 900,000 men and women from 1982,
2	of the University of Bristol and colleagues followed up on babies first studied between
3	Harvard School of Public Health, who have followed tens of thousands of Americans
4	of many thousands of free-living people followed for many years, studies comparing

Figure 17 Language Patterns for Stating Research Methodology Using ‘Looked’, ‘Studied’ and ‘Followed’ Found in the Corpus

In reporting research result, it is necessary to describe a process of research methodology. However, according to Table and Figure, it is worth indicating that verbs in past tense seem to play an important role in process descriptions.

Sub-move 4 Giving Supporting References

The purpose of this sub-move is to give the reference supports to strengthen the claim and gain the reliability and credibility of the study under discussion. This stage can be achieved in two steps as shown below:

Step 1 Referring to the Supporting Statements of the Research Results in other Studies

Step 2 Citing Supporting Comments/ Assessments on the Research/ Result under Discussion

Step 1 Referring to the Supporting Statements of the Research Results in other Studies

Referring to other studies relies on the use of reporting verbs (33 instances), especially *found*, *show* and *suggest*. The examples of reporting verbs used to refer to the research results in other studies are shown in Table 12 below:

Table 12 List of Linking Reporting Verbs Found in the Corpus

Reporting Verbs	No. of Occurrence	Reporting Verbs	No. of Occurrence
Found/ have found	12	Have discovered	1
Has found/ were found		Announced	1
Suggest/ suggests/ suggested	10	Reported	1
Show/ showed/ Shows/ have shown	8		
Total	33		

The following patterns are examples of how reporting verbs found in the corpus were used within this step.

N Concordance	
1	Hospital in Melbourne, Australia, <u>found</u> that women who could steel
2	he said. He noted that other studies have <u>found</u> that people with a gene that keeps
3	Netherlands Cancer Institute in Amsterdam <u>found</u> that women who received high-dose
4	the rats at the end of the study, they <u>found</u> significant loss of nerve cells in the
5	The ion channels, he and his colleagues <u>found</u> , do not close tightly enough. They
6	published in June in the journal Neuron <u>found</u> . This leakage leads to cells that are
7	surprising because previous research has <u>found</u> negative long-term results for very
8	and a separate group in Australia both <u>found</u> the incidence of cardiomyopathy may
9	by as much as 45 percent. Both <u>found</u> that about one in every 100,000
10	that can save a child's life. Lipshultz has <u>found</u> that a blood pressure drug called
11	called enalapril can help. His team also <u>found</u> the incidence of cardiomyopathy was
12	small amounts of trans fats in the diet were <u>found</u> to raise the harmful cholesterol and
N Concordance	
1	Still, Kendall said his preliminary results <u>suggest</u> the diet works about as well as the
2	rises by 20 percent. These findings <u>suggest</u> that it is best for children to remain
3	But in either case, Mash said, the study <u>suggests</u> brain changes could ``light the
4	of Health said in the editorial. but they <u>suggest</u> the drug could be a promising
5	Hospital. Recent studies have strongly <u>suggested</u> that carbohydrate-rich, low-fat
6	from becoming lifetime problems, he <u>suggested</u> . By stifling seizures early,
7	and surprised because previous reports <u>suggested</u> that there's an adverse outcome
8	with one of the current Alzheimer's drugs <u>suggests</u> the combination actually improves
9	victims die of the disease. The latest study <u>suggests</u> lung cancer patients do have
10	drugs, called statins, and the latest work <u>suggests</u> they may be getting an
N Concordance	
1	Friedman said. A long-term British study <u>shows</u> , for instance, that for every increment
2	develop a drug from the compound. Tests <u>show</u> that in lower concentrations, the
3	were eight and a half times as likely to <u>show</u> signs of mental impairment as breast
4	who had had standard-dose chemotherapy <u>showed</u> signs of impairment. Although it is
5	more than 20 minutes, MRI studies have <u>shown</u> signs of swelling in the
6	Do Seizures Damage the Brain? That study <u>showed</u> memory damage with repeated
7	of more than 120,000 health professionals <u>showed</u> significant cardiac benefits of a diet
8	months. The patients who got memantine <u>showed</u> a significant improvement in their

Figure 18 Language Patterns for Reporting a Result Using ‘Found’, ‘Suggest’ and ‘Show’ Found in the Corpus

**Step 2 Citing Supporting Comments/ Assessments on the Research/
Result under Discussion**

Rather than reporting opinions and evaluations themselves, writers can allow researchers to give their opinions and evaluations of results by quoting their comments and assessments of results. This step is marked mostly by forms of citation (38 instances) and the use of adjectives (42 instances) which are shown in Table 13-14 as follows:

Table 13 Verbs for Citation Found in the Corpus

Opinions	No. of Occurrence
Said/ say	27
Suggest	7
Agreed	4
Total	38

Table 14 List of Evaluative Adjective Found in the Corpus

Evaluative Adjective (Positive)	No. of Occurrence	Evaluative Adjective (Negative)	No. of Occurrence
Effective	6	Small	5
Surprising/ surprised/ surprise	5	Low	4
Good	4	Little	3
Promising	3	Bad	1
Impressive	1	Unpredictable	1
Beneficial	1	Unable	1
Clear	1		
Striking	1		
Plausible	1		
Intriguing	1		
Acceptable	1		
Important	1		
Interesting	1		
Total	42		

The following patterns are examples of how evaluative adjectives found in the corpus were used within this step.

N	Concordance
1	“It appears that a Portfolio diet is <u>effective</u> at reducing cholesterol and
2	of the 21st century is to develop <u>effective</u> strategies to prevent and treat
3	the compound is at least as <u>effective</u> as the widely used anti-cancer
4	modest amounts of protein may be less <u>effective</u> in achieving and maintaining
5	medications to stem power surges. More <u>effective</u> medicines may help prevent
6	method is cheap, it's easy to learn and it's <u>effective</u> , and there were no deaths and no

Figure 19 Language Pattern for Evaluative Adjective Using ‘Effective’ Found in the Corpus

Move 3: Presenting Counter-Claims

The purpose of this move is to make a counter-claim against the research under discussion in order to keep the presentation of the feature article balanced. This move consists of three steps for the purpose of pointing out the weakness of the research result under discussion and giving opposing references to strengthen the counter-claim. The steps are presented below:

Step 1 Pointing out the Weakness(es) of the Research/ Result under Discussion

Step 2 Referring to the Statements Opposing the Research Results in other Studies/ Existing Knowledge

Step 3 Citing Comments/ Assessments Opposing the Research/ Result under Discussion

The realization of this move can be broken down into the categories below:

- a) the use of 'not' in verb phrase (7 instances)
- b) the use of minimizing adjectives or adverbials (5 instances): small (3 instances), remains to be seen and remains unclear (2 instances)
- c) question raising with the use of 'whether' (14 instances)
- d) reporting verbs (5 instances)

Note: some signals occur in more than one article.

Direct and indirect questions have a number of functions in academic writing; however, perhaps their most important use is to point out the problems of the issues under discussion. For this reason, they are particularly common in some of the feature articles providing a counter-claim in order that the problem or the weakness of the research result under discussion is introduced. The example of the use of 'not' in verb phrase and reporting verbs are presented in Table 15-16 as follows:

Table 15 List of 'Not' in Verb Phrase Found in the Corpus

'Not' in Verb Phrase	No. of Occurrence
Not clear	3
Not certain	1
Not follow	1
Not reveal	1
Not known	1
Total	7

Table 16 List of Reporting Verbs Found in the Corpus

Reporting Verbs	No. of Occurrence
Have found that	3
Have demonstrated	1
Indicated	1
Total	5

The following pattern is an example of how question raising by the use of ‘whether’ found in the corpus was used within this move.

N Concordance	
1	in the real world or only in an experiment?" Whether it truly is as good as a statin,
2	questions unanswered. Among them: whether it would apply to a wider group
3	his patients about drinking. It's not clear whether cocaine kills brain cells or merely
4	kills brain cells or merely impairs them, or whether the effect is reversible, said study
5	Little. Little said the research did not reveal whether the brain impairment resulted from
6	recent use before death. It remains unclear whether cocaine causes depression or
7	whether cocaine causes depression or whether people start using the drug because
8	said. Longer studies are needed to show whether the lipid benefits last, and also to
9	the lipid benefits last, and also to find out whether low-carbohydrate diets carry other
10	liver over the long term. but he questioned whether the improvements in blood lipids
11	be detrimental." Bonow also questioned whether it would be healthy, in the long run,
12	have long been sceptical about whether herbal remedies work at all, and if
13	herbal remedies work at all, and if so, whether they can be scientifically verified as
14	benefit is small, although some questioned whether the change will be immediately

Figure 20 Language Pattern for Raising Questions Using ‘Whether’ Found in the Corpus

In the investigated feature articles, ‘whether’ is frequently used to raise questions and introduce the weakness of the research result under discussion.

Move 4: Making Recommendations

The aim of this move is to give readers recommendations to end the discussion of the topic under discussion. It may have two steps:

Step 1 Reporting of Suggestions Made by the Researcher under Discussion

Step 2 Giving Suggestions to the Reader

The realization of this move can be done mainly by employing the verbs to give recommendation (11 instances) as shown below in Table 17:

Table 17 List of Verbs for Giving Recommendation Found in the Corpus

Verbs Giving Recommendation	No. of Occurrence
Should	3
Call for	3
Suggest/ suggested	2
Note	2
Urge	1
Total	11

Patterns of Move Orders in the Feature Articles

Table 18 Patterns of Move Orders in the Feature Articles Investigated

Article No.	Move Order
1	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S$
2	$E \rightarrow S$
3	$E \rightarrow S$
4	$E \rightarrow S \rightarrow P \rightarrow S$
5	$E \rightarrow S \rightarrow M$
6	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S \rightarrow P$
7	$E \rightarrow P \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S$
8	$E \rightarrow S$
9	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S$
10	$E \rightarrow S$
11	$E \rightarrow S \rightarrow P$
12	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow M$
13	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S \rightarrow M$
14	$E \rightarrow S \rightarrow M$
15	$E \rightarrow S \rightarrow M$
16	$E \rightarrow S$

Table 18 (Cont'd)

Article No.	Move Order
17	$E \rightarrow S \rightarrow P \rightarrow S$
18	$E \rightarrow S$
19	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S$
20	$E \rightarrow S \rightarrow M$
21	$S \rightarrow E \rightarrow S \rightarrow P \rightarrow S$
22	$S \rightarrow E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S$
23	$E \rightarrow S$
24	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S \rightarrow M$
25	$S \rightarrow E \rightarrow S \rightarrow P \rightarrow S$
26	$E \rightarrow S \rightarrow P \rightarrow S \rightarrow M$
27	$E \rightarrow S \rightarrow M$
28	$E \rightarrow S$
29	$E \rightarrow P \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S$

Note: E = Establishing a Topic, S = Supporting the Claim
P = Presenting the Counter-Claim, M= Making Recommendation

The above patterns of the move structure of the feature articles were analyzed using the framework outlined earlier. The structure of article 1 ($E \rightarrow S \rightarrow P \rightarrow S \rightarrow P \rightarrow S$) indicates that the feature article began with Move 'Establishing a topic', and then proceeded to Move 'Supporting the claim' and Move 'Presenting the counter-claim'. Then, Move 'Supporting the claim' and Move 'Presenting the counter-claim' were employed once again before the feature writer ended the feature article with Move 'Supporting the claim'.

According to the above patterns of move orders of the 29 investigated feature articles, the patterns can be concluded as follows:

Table 19 Patterns of Move Orders in the Feature Articles Investigated

Move Order	Number of occurrence	Percentage
1. E → S	8	27.58 %
2. E → S → M	5	17.24 %
3. E → S → P	1	3.45 %
4. E → S → P → S	2	6.90 %
5. E → S → P → S → M	1	3.45 %
6. E → S → P → S → P → M	1	3.45 %
7. E → S → P → S → P → S	2	6.90 %
8. E → S → P → S → P → S → M	1	3.45 %
9. E → S → P → S → P → S → P	1	3.45 %
10. E → S → P → S → P → S → P → S	1	3.45 %
11. E → S → P → S → P → S → P → S → M	1	3.45 %
12. E → P → S → P → S → P → S	2	6.90 %
13. S → E → S → P → S	2	6.90 %
14. S → E → S → P → S → P → S	1	3.45 %

From the 14 patterns of the move orders in the feature articles investigated, the patterns of move orders can be illustrated as shown in Table 20 below.

Table 20 Patterns of Move Orders in the Feature Articles Investigated

Move	Followed by Move E	Followed by Move S	Followed by Move P	Followed by Move M	Occurs Last	Total
E	-	27	2	-	-	29
S	3	-	28	8	18	57
P	-	28	-	1	2	31
M	-	-	-	-	9	9

Note: E = Establishing a topic,

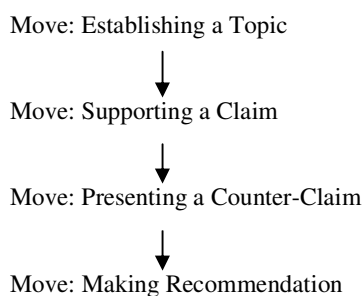
S = Supporting a claim

P = Presenting a counter-claim,

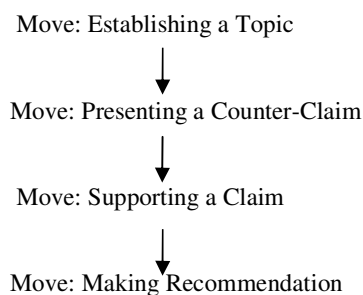
M = Making recommendation

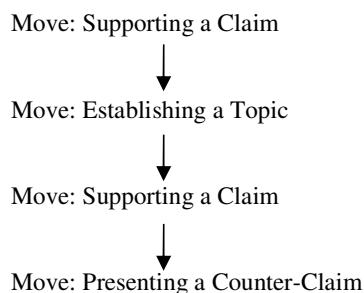
Table 19-20 reveals that Move E normally occurs first ($E \rightarrow$) and can be followed by Move S ($E \rightarrow S$). Only twice in 29 articles was move E followed by something else ($E \rightarrow P$). Move S was usually followed by Move P ($S \rightarrow P$), and in the same way, Move P is mostly followed by Move S ($P \rightarrow S$). However, Move E is followed by Move S with much greater frequency than it is followed by Move P. As for Move M, it came last in every instance.

Therefore, it could be concluded that, in theory, the prototypical pattern of move order in the feature articles should be $E \rightarrow S \rightarrow P \rightarrow M$. However, from Table 21, it is worth noting that Move P is frequently followed by Move S ($P \rightarrow S$) as well. It means that, in practice, whenever Move P is introduced, it is likely that Move S would be introduced afterward in order to strengthen the claim of what the article is talking about. Therefore, it can also be concluded that a prototypical move of the feature articles investigated might be $E \rightarrow S \rightarrow P \rightarrow S \rightarrow M$ as well. The prototypical move of the feature genre investigated is illustrated as follows:



Also, other frequently occurring patterns of move orders were as follows:





The above patterns of move orders in the feature articles presenting research on health and fitness correspond to those reported by Hasan (Halliday and Hasan, 1989). She found that in many genres, moves occur in a fairly fixed order; however, moves occasionally exhibit small variations in order and that some sets of moves may repeat iteratively. She further demonstrated that while some moves appear to be obligatory in certain genres, others may be optional.

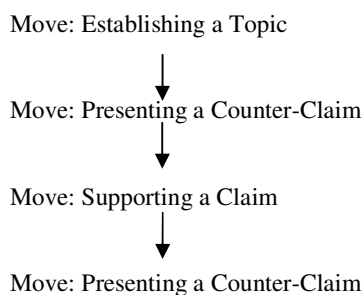
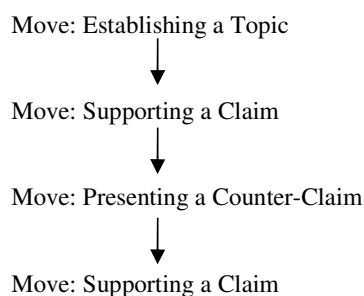
To appeal the readers' interest in an article, the main topic of what the feature article is mainly about must be established first. As a result, most of the feature articles begin with Move 'Establishing a Topic'. The present study found that only Move 'Establishing a Topic' and Move 'Supporting a Claim' can be used as the opening move of the articles. Nevertheless, it is worth noting that Move 'Establishing a Topic' and Move 'Supporting a Claim' can be switched. However, the likelihood of Move 'Establishing a Topic' being used as the starter of this kind of feature article is much higher.

Furthermore, it is possible that Move 'Supporting a Claim' and Move 'Presenting a Counter-Claim' be switched although Move 'Supporting the claim' is frequently employed immediately after Move 'Establishing a topic'. The optional Move 'Making Recommendation' has to occur only in the end, and it ends the article.

It is also worth noting that once Move 'Presenting a Counter-Claim' is employed, it is frequently followed by Move 'Supporting a Claim' in order to strengthen the claim as shown in the diagrams below. Moreover, it is worth mention that most of the feature articles employed only Move 'Establishing a topic' and Move

‘Supporting a Claim’ to achieve the communicative purpose of informing. However, Move ‘Presenting a Counter-Claim’ and Move ‘Making Recommendation’ are mostly employed to entertain the reader and most importantly to hold the readers’ interest to the end of the article. In fact, Move ‘Making Recommendation’ aims to bring the debate in the cycling of Move ‘Supporting a Claim’ and Move ‘Presenting a Counter-Claim’ to a logical conclusion and therefore is a natural end to the article.

In addition, cycling of patterns of move orders could possibly occur. Examples of such patterns are as follows:



In reality, the cycling patterns of move orders between Move ‘Supporting a Claim’ and Move ‘Presenting a Counter-Claim’ occurred to present a balanced view of the topic under discussion as a debate in order to make some variations to the writing so that the readers would pay attention to it.

**Frequency of Moves, Sub-moves and Steps Found in the
Corpus of Investigated Feature Articles**

Frequency of Moves Found in the Corpus

Table 21 Moves Found in the *Bangkok Post* Feature Articles Investigated
(the move may occur one or more times)

Article No.	Move 1 (E)	Move2 (S)	Move 3 (P)	Move 4 (M)
1	/	/	/	
2	/	/		
3	/	/		
4	/	/	/	
5	/	/		/
6	/	/	/	
7	/	/	/	
8	/	/		
9	/	/	/	
10	/	/		
11	/	/	/	
12	/	/	/	/
13	/	/	/	/
14	/	/		/
15	/	/		/
16	/	/		
17	/	/	/	
18	/	/		
19	/	/	/	
20	/	/		/
21	/	/	/	
22	/	/	/	
23	/	/		
24	/	/	/	/
25	/	/	/	
26	/	/	/	/
27	/	/		/

Table 21 (Cont'd)

Article No.	Move 1 (E)	Move2 (S)	Move 3 (P)	Move 4 (M)
28	/	/		
29	/	/	/	
Percentage of articles containing the move	100 %	100%	55.17%	31.03%

On the basis of the above table, it appears to be certain that move 1 and move 2 are obligatory in all feature articles presenting research on health and fitness since the main purpose of these moves is to catch the reader's interest.

Move 3 is used with high frequency, but it is not really obligatory. In fact, its use probably depends on the distinctive style of the writer.

It is clear that move 4 is used only in certain features so it is not likely to be an obligatory move.

Frequency of Sub-Moves and Steps within the Move

Table 22 Frequency of Steps Found in Move 1 'Establishing a Topic'

Steps	No. of Occurrences	Percentage%
1	21	72.41
1&2	8	27.59
Total	29	100

Note: 1 = Step 1 Reporting a Claim of the Research under Discussion

2 = Step 2 Reporting a Counter-Claim against the Research under discussion

According to Table 22, it could be concluded that Step1 is always employed in the corpus as it is used in all of the articles investigated while Step2 is employed in only 8 articles. This means all of the writers of the feature articles investigated employ Step 1 'Report a Claim of the Research under Discussion' to establish a topic.

On the contrary, some feature writers also try to report a counter-claim against the research under discussion in order to keep informing the readers in a balanced way. However, in order to do so, the counter-claim must be reported first before introducing a main claim of the research under discussion.

Table 23 Frequency of Sub-Moves Found in Move 2 ‘Supporting the Claim’

Sub-moves	No. of Articles	Percentage%
1&2&3&4	14	48.28
1&3&4	10	34.48
1&2&4	1	3.45
2&3&4	1	3.45
1&3	1	3.45
3&4	1	3.45
1&4	1	3.45
Total	29	100
Sub-moves	No. of Articles	Percentage%
1	27	96.43
2	16	57.14
3	27	96.43
4	28	100

Note: 1 = Sub-move 1 Stating the Research Result under Discussion

2 = Sub-move 2 Introducing Background Information/ Existing Knowledge

3 = Sub-move 3 Presenting Further Information Related to the Research under Discussion

4 = Sub-move 4 Giving Supporting References

Table 23 shows that each Sub-move in Move 2 ‘Supporting the Claim’ could occur together in the same feature article. However, it is worth noting that Sub-move 1, 3 and 4 are frequently employed to achieve the communicative purpose of this move while Move 2 is not likely to be obligatory.

Table 24 Frequency of Steps Found in Sub-Move 1 ‘Stating the Research Result under Discussion’ within Move 2 ‘Supporting the Claim’

Steps	No. of Occurrences	Percentage%
1	3	11.11
2	3	11.11
1&2	21	77.78
Total	27	100

Note: 1 = Step 1 Reporting the Highlight Statement of Result in General Terms

2 = Step 2 Reporting an Elaboration on the Specific Results’

Table 24 shows that both Step 1 and 2 are more likely to be employed together instead of using either Step 1 or 2.

Table 25 Frequency of Steps Found in Sub-Move 3 ‘Presenting Further Information Related to the Research under Discussion’ within Move 2 ‘Supporting the Claim’

Steps	No. of Occurrences	Percentage%
1&2&3	9	33.33
2&3	5	18.52
1&3	5	18.52
3	5	18.52
2	3	11.11
Total	27	100

Note: 1 = Step 1 Reporting Extra Information Related to the Research under Discussion

2 = Step 2 Reporting Rationale of the Research under Discussion

3 = Step 3 Reporting the Methodology of the Research under Discussion

Table 25 shows that all three steps could be employed together in this Sub-move. It is also worth nothing that only one step can be chosen to employ; however, Step 1 is less likely to be used alone.

Table 26 Frequency of Occurrence of Steps Found in Sub-Move 4 ‘Giving Supporting References’ within Move 2 ‘Supporting the Claim’

Steps	No. of Occurrences	Percentage%
1	4	14.29
2	11	39.29
1&2	13	46.43
Total	28	100

Note: 1 = Step 1 Referring to the Supporting Statements of the Research Results in other Studies

2 = Step 2 Citing Supporting Comments/ Assessments on the Research/ Result under Discussion

Table shows that 24 of the investigated feature articles employed Step 2 ‘Citing the Supporting Comments’ while Step 1 ‘Referring to the Supporting Statements of the Research Results of other Studies’ hardly occurred alone. This suggests that in order to strongly support the claim, both steps, or at least Step 2, should be employed.

Table 27 Frequency of Steps Found in Move 3 ‘Presenting the Counter-Claim’

Steps	No. of Occurrences	Percentage%
1	3	18.75
3	3	18.75
1&2	1	6.25
2&3	1	6.25
1&3	7	43.75
1&2&3	1	6.25
Total	16	100

Note: 1 = Step 1 Pointing out the Weakness of the Research/ Result under Discussion

2 = Step 2 Referring to the Statements Opposing the Research Results in other Studies/Existing Knowledge

3 = Step 3 Citing Comments/ Assessments Opposing the Research/ Result under Discussion

According to Table 27, it is less likely that all of the steps in Move 3 are employed together. Only Step 1 or 3 could be separately used, but they are more likely to be used together.

Table 28 Frequency of Occurrence of Steps Found in Move 4 ‘Making Recommendations’

Steps	No. of Occurrences	Percentage%
1	6	66.67
2	2	22.22
1&2	1	11.11
Total	9	100

Note: 1 = Step 1 Reporting Suggestions Made by the Researcher under Discussion

2 = Step 2 Giving Suggestions to the Reader

According to Table 28, each step could occur together, but Step 1 ‘Reporting Suggestions Made by the Researcher under Discussion’ is more likely to be employed than Step 2 ‘Giving Suggestions to the Reader’.

Comparison with Other Related Studies

Since the data for this study were feature articles presenting research on health and fitness, the move structure of the features is likely to be similar to both structure of feature articles and research articles. Consequently, the results of this study were compared to both the structure of the feature article and the move structure of research article.

Similar Findings on the Move Structure of Feature Articles

Thongtham (2006) believes that readers of feature articles about health and fitness expect results that affect them in some way. As a consequence, a feature is likely to be successful if it can fulfill such an expectation. This is the reason why the

research results or latest developments reported in the feature articles form the core of the articles. In fact, to get the reader's attention, the findings of the studies or the new discovery are likely to be presented at the beginning of the article or delayed for at least a paragraph, beginning instead with an interest-catching situation. Also, in order to hold the reader's interest, the bodies of health features are written by showing the statement of results, comment on the findings and some discussion in details. Some of the features are wrapped up with a conclusion or suggestion as an ending.

The researcher found that the structure of feature articles presenting on health and fitness showed some similarities to the inverted pyramid pattern of some feature articles as shown in Figure 3 and of the news story as described in Williamson (1975):

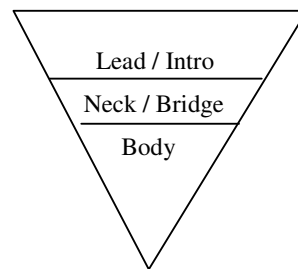


Figure 21 Inverted Pyramid: News Story

Source: Williamson (1975: 39)

According to Williamson (1975), the news story's inverted pyramid allows the reader obtain the most important information immediately in the lead part in order to keep the reader's interest. It also provides the reader some information, as a neck or bridge part, to link the reader into the body of the article. After a short, fast-moving lead, the writer quickly moves through the body of the story in descending order of interest and importance. That is, information becomes more and more detailed and specific. Since they are written in descending order of importance, the copy desk can cut from the bottom to make the story conform to available space in the newspaper. For the same reason, the copy desk knows that the most important aspect of the story

should be told in the lead. Thus, when writing headlines under deadline pressure, the copy desk often relies on information in the lead.

However, in the form of feature article, an additional part, the ending, is included in the inverted pyramid in order to conclude the article or point back to the lead. The form of feature articles presenting research on health and fitness corresponds to the inverted pyramid patterns suggested by Williamson (1975). That is, the feature articles consist of a lead, a bridge, a body and an ending part.

Surprisingly, the form of the feature articles investigated is different from what Williamson expected. In contrast, their structures seem to fit the inverted pyramid of news story. That is, most of the endings are likely to be excluded. According to the interview with the authority at the Post, although she agreed that there should be some kinds of an ending in the feature articles, most of the feature articles investigated have no ending because she has to have the feature fit the space available in that day. Another reason might be that the main idea of the features have already presented in the first few paragraph, as a lead, to catch the readers' interest; therefore, there is no need for an ending.

Moreover, the feature lead corresponds to the basic newspaper leads, a summary lead commonly used in the newspaper. Garrison (1989) indicates that the summary lead gives the traditional five w and h (who, what, when, where, why, and how) in as few words as possible. Some summary leads focus on one or two of these elements of the story and save the others, which are judged less important, for later in the story.

Hutchison (1996) agrees that the summary lead summarized briefly what happened in the news event. In a summary lead, the major details of each element are noted. Each major item is taken up in succeeding paragraphs in the order of its appearance in the summary lead. More details of the elements are presented in later paragraphs.

The move pattern of the feature articles investigated corresponds to the structure in Figure 22 above. The comparison is shown in Table 29. From the table, it is clear that Move 1: Establishing a Topic corresponds to the summary lead which is usually the first few paragraphs in the article. The feature firstly reports a claim, sometimes together with a counter-claim, of the research under discussion to summarize the topic of what the feature is all about and to catch the readers' interest. Move 2: Supporting the Claim and Move 3: Presenting the Counter-Claim corresponds to the bridge and body part as they try to give further details, information, discussion and explanation to the lead of the article. The content in the body is arranged from general to specific pattern. In other words, the body is presented from the most important idea to the less important details follow in succeeding paragraphs. Finally, move 4: Making Recommendation corresponds to the conclusion part as it tries to conclude and end the article the same as the conclusion part in the inverted pyramid structure does.

Table 29 The Comparison of the Move Structure

Moves of the Present Study	Williamson' s Inverted Pyramid Structure of Feature Article (1975)
Move 1: Establishing a Topic	Lead
Move 2: Supporting the Claim	Bridge and Body
Move 3: Presenting the Counter-Claim	Bridge and Body
Move 4: Making Recommendations	Conclusion
Source: Williamson (1975)	

Similar Findings on the Move Structure of Research Articles

Since the feature articles investigated in this study mostly aim to present a summary of the research outcomes to the newspaper reader, in terms of move structure, some moves found in the present study seem to be similar to those found in the previous study on discussion sections (Hopkins and Dudley, 1988).

Hopkins and Dudley (1988) study is about a genre-based investigation of discussion sections in both research articles and dissertations. Hopkins proposed 11 moves of discussion sections and a typical pattern with three cycles.

Since the present study investigated feature articles presenting research findings on health, it shares certain moves with the studies of Swales (1990) and Hopkins and Dudley (1988). The comparison of moves found in this study and moves found by Swales (1990) and Hopkins and Dudley (1988) is illustrated in Table 30 below:

Table 30 The Comparison of Moves between Swales (1990), Hopkins and Dudley (1988) and the Present Study

The Present Study	Swales' Research Article Introductions (1990)	Hopkins and Dudley-Evan' s Research and Dissertation Discussions (1988)
Move 1: Establishing a Topic	Move 1: Establishing a Territory Move 2: Establishing a Niche	-
Move 2: Supporting the Claim	-	Move 1: Background Information Move 2: Statement of Result Move 4: Reference to Previous Research
Move 3: Presenting the Counter-Claim	-	Move 4: Reference to Previous Research
Move 4: Recommendation	-	Move 10: REcommendations

Source: Swales (1990), Hopkins and Dudley-Evan (1988)

CHAPTER V

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This chapter consists of five sections. The first section gives a brief description of what the study is all about. The second section summarizes a few issues from the analysis of move structure of the feature articles in the corpus. The next section discusses the implications of the present study by illustrating how the study can contribute to ESP and other fields. Then, recommendations for future studies are presented. The final section is an attempt to link research findings to other related studies.

Brief Description of the Study

The Objectives of the Study

This study mainly aims to investigate the genre of feature articles presenting research on health and fitness. Also, the objectives of the study are to identify moves and steps of health feature articles in the corpus, together with their communicative purposes, patterns of move orders of health feature articles in the corpus, frequencies of occurrence of moves and steps of the features in the corpus, and distinguishing linguistic features that signal and characterize moves and steps.

Methodology

The data were the feature articles published weekly on Mondays in the 'Health and Fitness' sub-section of the Outlook Section of the *Bangkok Post* from January through June 2003. The analysis was done by first setting the criteria for identifying the moves and steps of the feature article in the corpus. Next, the accuracy of the criteria was checked with authorities. The data were then analyzed, and following this, the results were double checked by three inter-raters to establish the reliability of the analysis.

Summary of Major Findings

The move structure for writing feature articles presenting research on health and fitness found in this study was as follows:

Move 1: Establishing a Topic

Move 2: Supporting the Claim

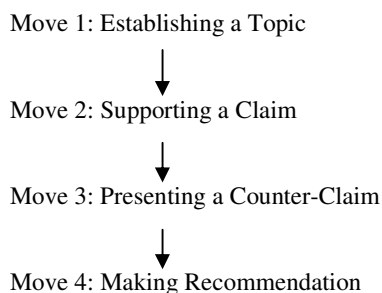
Move 3: Presenting the Counter-Claim

Move 4: Making Recommendations

In sum, Move1 ‘Establishing a Topic’ aims to introduce the central idea of what the feature article is all about. This move can be marked by reporting a claim or a counter-claim against the research under discussion. Move 2 ‘Supporting the Claim’ aims to provide the reader with some references and an elaboration of the claim of the research under discussion. In contrast, the purpose of Move 3 ‘Presenting Counter-Claim’ is not only to point out the weakness of the research result under discussion but also to provide some contrastive references that weaken the claim of the research under discussion. Lastly, the aim of Move 4 ‘Making Recommendations’ concludes the article by giving the readers some recommendations related to the topic under discussion.

It is worth noting that Move 1 to Move 4 could be proposed as a prototypical move structure of the investigated genre since all of the above moves assist in the realization of overall communicative purposes of the feature articles in the corpus, which are not only to give health information but also to entertain the readers.

Consequently, in order to achieve the overall communicative purposes of the feature articles presenting research on health and fitness, all of the four moves suggested earlier may be employed and presented in order as follows.



Firstly, Move 1 ‘Establishing a Topic’ is introduced in order to appeal to the reader’s interest. Next, the use of Move 2 ‘Supporting the Claim’ is recommended to direct the reader’s interest to the body of the article. To achieve writing this move, there are four sub-moves that should be considered: Sub-move 1 ‘Providing a Summary of the Research or Research Result under Discussion; Sub-move 2 ‘Giving an Elaboration of the Topic under Discussion’; Sub-move 3 ‘Providing other Information’; and Sub-move 4 ‘Giving Supporting References to the Topic under Discussion’. To illustrate the points and support the claim, all of the four sub-moves are strongly recommended; nevertheless, all four sub-moves are optional. In other words, there is no need to employ every sub-move nor need they be arranged in a certain order.

Move 3 ‘Presenting the Claim’ should be introduced to open a debate so that the article will hold the reader’s interest. Finally, Move 4 ‘Recommendation’ should be presented in order to conclude the debate.

The main finding of this study corresponds to what Ramsey (1994) and Hutchison (1996) believe. They agree that writing a technical article requires a distinct style, conventions and pattern. That is, feature writing demands that content determine form. This means that certain topics must be written about in a particular style and structure and the most effective ordering of information must be discovered for each topic. This is true of feature articles presenting research on health and fitness. The feature articles investigated have a specific topic concerning health and fitness; therefore, a specific move structure is required in writing this kind of text.

Maneesawangvong (1996) indicates in her study that the *Bangkok Post*, an English language newspaper in Thailand, found out that the readers of the *Bangkok Post* can be divided into two groups: the elite and the affluent. The elite are a group of people who are well-educated, intelligent, powerful and have a lot of influence in society while the affluent are a group of people who have a good standard of living with an average income at about 50,000-100,000 baht per month.

However, it is worth noting that both groups are recognized as general readers. Moreover, although the contents of the feature articles investigated are related to research articles, which are an academic form of written text, the language used in the features investigated is quite simple in order to ease the readers understand the articles.

As a result, this study found that the main linguistic features used in the articles investigated are likely to be reporting verbs and some qualifications which are made in order to distance the writer of the feature from the academic articles so that the reader may assess the credibility he or she should give the research under discussion.

Implications of the Present Study

The corpus of the study was limited to 29 feature articles published in the *Bangkok Post* from January through June 2003. Because of the limited size of the corpus, generalizations cannot be made. It is however hoped that this study will be of value to writers of the genre who are, for example, journalists, freelance writers, and scientific and medical experts, especially doctors and researchers who are interested in publishing on research in health and medicine. This study hopes to provide feature writers with certain models or guidelines of how the genre is organized in order to help them produce health and fitness feature articles that meet publishers' requirements.

In addition, it is hoped that the findings on linguistic features will be useful to feature writers and also to teachers and students in mass communication. The research points out the language functions and forms that should be emphasized in the teaching of the genre.

Recommendations for Future Studies

Although this study was quite limited, it can serve as a guideline for further research. Below are some recommendations for fruitful future studies.

1. Enlarging the corpus

The corpus used in this study was only 29 articles, and therefore, generalizations could not be drawn. Consequently, a larger sample should be collected in future studies so that significant generalizations can be made.

2. Making comparisons with articles in other newspapers

Only feature articles published in the *Bangkok Post* were investigated in the present study; therefore, comparison of the findings could be made with articles in other English language newspapers in order to enlarge the study in this field and confirm the result of the study.

3. Examining headlines and sub-headlines of the feature articles

Further research on the analysis in headlines and sub-headlines of feature articles presenting research on health and fitness or other topics is recommended. They should be analyzed, for example, in terms of how they correspond to the articles and how they are structured.

4. Examining other linguistic features

Since the present study focuses on the distinguishing linguistic features that signal and characterize the moves and steps of the investigated genre, further research on other linguistic features or on the same features with deeper analysis is recommended. Also, lexical analysis of technical vocabulary concerning health and fitness would be useful to feature writers who are not members of the medical discourse community.

5. Further study of feature articles presenting research on other topics

It could also be worth analyzing in feature articles presenting research on other topic and comparing it to the feature articles presenting research on health and fitness.

6. Studying feature articles on other topics

Various kinds of features are presented in the newspaper, and genre-based investigation should be made of the move structure in these, especially in other technical feature articles.

7. Further study on feature articles in other kinds of texts

Since some parts of the feature articles in a newspaper are cut to have the articles meet the space provided, the move-structure could not be completed for genre analysis. As a consequence, further study could be on feature article in other kinds of texts that the features are not limited by space.

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APPENDICES

Appendix A

List of Moves Found in the Feature Articles Investigated

(1) PublicationDate: 10-03-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: vegetarian food

HEADLINE: Vegetarian diet helps heart

SUBHEADLINE: Fibre and soy diet can drop cholesterol by one-third

BYLINE: DANIEL Q. HANEY

Data	Description of moves & steps	Agree	Disagree
People with high cholesterol may lower their levels by a surprising one-third with a vegetarian diet that combines a variety of trendy heart-healthy foods, including plenty of soy and soluble fibre, a study found.	E1		
Although a healthy diet is a mainstay of cholesterol control, people typically can reduce their cholesterol only about 10 percent by changing what they eat. As a result, doctors routinely prescribe cholesterol-lowering drugs called statins.	S2		
However, a variety of studies suggest certain plant foods are especially good at lowering cholesterol. So a Canadian team put together a diet combining several of these to see what would happen.	S3.2		
"The reductions are surprising," said Cyril Kendall of the University of Toronto. "Most dietitians would not expect that sort of reduction through dietary means."	S4.2		
Whether most people would stick with such a diet is another matter, since it involves daily okra, eggplant and Metamucil, among other things.			
Still, Kendall said his preliminary results suggest the diet works about as well as the older statin drugs that are still first-line therapy for people with high cholesterol.			
Kendall presented the results of his approach, called the Portfolio diet, at a meeting in Miami Beach on Thursday of the American Heart Association. The research was sponsored by the Canadian government, the Almond Board of California and the food companies Unilever Canada and Loblaw Brands.	S3.1		
"This was a pretty impressive result," said Dr Stephen Daniels of Children's Hospital Medical Center in Cincinnati.	S4.2		
"However, the results need to be replicated. Can this be done in the real world or only in an experiment?"	P1		
The diet is based on a low-fat vegetarian regimen that emphasises foods shown individually to be beneficial _ soy, soluble fibre, plant sterols and almonds. Sources of soluble fibre include oats, barley, legumes, eggplant, okra and Metamucil. Some brands of margarine are high in plant sterols.	S1.2		
In the experiment, 25 volunteers ate either a standard low-fat diet or the Portfolio approach, while researchers watched the effects on their LDL cholesterol, which increases the risk of heart disease, and HDL, which lowers it.	S3.3		
After a month, LDL levels fell 12 percent in those on the standard diet and 35 percent in those on the Portfolio diet. However, HDL levels were unchanged in people on the Portfolio diet.	S1.2		

Data	Description of moves & steps	Agree	Disagree
Kendall said volunteers found the diet extremely filling, and several have stayed on it after the experiment finished.			
“It appears that a Portfolio diet is effective at reducing cholesterol and coronary heart disease risk,” he said.	S4.2		
Whether it truly is as good as a statin, though, remains to be seen. Those drugs have been proven to reduce the risk of heart attacks and death, while the diet has not been put to that test.	P3		
In the experiment, dieters got foods supplied by the researchers that are all available from supermarkets or health food stores. Every meal contained soy in some form, such as soy yoghurt or soy milk.	S1.2		
A typical breakfast included oat bran, fruit and soy milk, lunch might involve vegetarian chilli, oat bran bread and tomato, and a typical dinner was vegetable curry, a soy burger, northern beans, barley, okra, eggplant, cauliflower, onions and red peppers. Volunteers also got Metamucil three times a day.			
531			

(2) PublicationDate: 03-02-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: baby study, childcare

HEADLINE: Advice for new parents

SUBHEADLINE: Frequently fed babies wake up at night

Data	Description of moves & steps	Agree	Disagree
Parents who feed their newborn baby too frequently pay for it at night, for the child is likely to sleep badly, according to a study that adds, however, that help is at hand.	E1		
Researchers studied 600 healthy British babies and discovered that newborns who had been fed more than 11 times during 24 hours in their first week of life were nearly three times as likely to have disrupted night-time sleep three months later.	S3.3 S1.1		
The doctors found, however, that by using a simple three-step behavioural programme, parents could train a newborn to sleep through the night _ and even the ``at-risk" babies who had been fed too often benefited from it too.			
Step one of the programme entails maximising the difference between daytime and night-time environments, by darkening rooms and making less noise in the home so that the newborn associates that time with sleeping.	S1.2		
Step two: When the baby is sleepy at night-time, it is placed in its bed or cot, without cuddling or feeding.			
Step three is taken when the baby is three weeks old, healthy and putting on weight normally.			
At this point, the parents gradually begin to delay feeding when it wakes up at night, using nappy changing or handling before any breast or bottled milk are offered. That way, the baby does not associate waking up with the pleasure of a feed, and so is likelier to settle down and go back to sleep.			
The three-step programme enabled 82 percent of ``at risk" babies to sleep through the night. The rate was only 62 percent among ``at risk" babies who were in a control group in which there was no programme.			
The researchers, led by Ian St James-Roberts of the University of London, say their programme stands a good chance of being adopted by parents because it is gentler than tougher initiatives that let babies with chronic sleeping problems cry themselves to sleep.	S4.2		
A study last year by Royal Children's Hospital in Melbourne, Australia, found that women who could steel themselves to use the ``cry baby" technique ended up healthier and happy and less prone to post-natal depression.	S4.1		
Infant sleep problems have a widely recorded effect on family health.	S3.2		
They are identified as a cause of marital stress, family breakdown, child abuse and child behaviour problems.			
381			

(3) PublicationDate: 10-02-2003
PAGE: 07

PUBLICATION: BANGKOK POST
KEYWORD: men study

HEADLINE: Face facts

SUBHEADLINE: Men who don't shave have less sex, more strokes, or so study suggests

BYLINE: RICHARD WOODMAN

Data	Description of moves & steps	Agree	Disagree
Men who don't shave every day enjoy less sex and are 70 percent more likely to suffer a stroke than daily shavers, a new study shows.	E1		
A team at Bristol University who examined the link between shaving, coronary heart disease and stroke in 2,438 middle-aged Welsh men,	S3.3		
said that men who did not shave every day were more likely to suffer a heart attack or stroke.	S1.1		
Over the course of the 20-year study, there were 835 deaths, they reported in the American Journal of Epidemiology.	S3.1		
In all, 45 percent of the men who shaved less than daily died, compared with 31 percent of those who shaved at least daily. Many of the excess deaths were due to higher rates of smoking and the poorer lifestyles of men who did not shave daily, but the scientists said this did not explain their substantially raised risk of strokes.	S1.2		
The findings show that men who don't shave every day are less likely to be married and are more likely to be blue-collar workers. They also have fewer orgasms, tend to be shorter, and to suffer from angina. "The association between infrequent shaving and death is probably due to underlying smoking and social factors, but a small hormonal effect may also exist," Professor Shah Ebrahim, of the department of social medicine, said in a statement.			
He said the association with stroke did not fall away after discounting lifestyle factors and remained unexplained.			
Ebrahim said the link between circulating sex hormones and beard growth was first established when a man on a remote island in the Hebrides noticed that his beard grew vigorously when he was about to rejoin his girlfriend on the Scottish mainland.			
He said the low frequency of orgasm in men who did not shave regularly might be because they had low levels of testosterone or might simply reflect the fact that they were unmarried and had less opportunity for sex.			
One possible explanation for the raised risk of stroke was that levels of circulating sex hormones in the body might influence the atheroma process in which fatty deposits build up in the arteries.			
352			

(4) PublicationDate: 10-02-2003 PUBLICATION: BANGKOK POST
 PAGE: 07 KEYWORD: fat, overweight

HEADLINE: Fighting fat uphill battle
 SUBHEADLINE: Americans are eating twice as many calories as they need

BYLINE: MAGGIE FOX

Data	Description of moves & steps	Agree	Disagree
Just take three fewer bites of that burger and you will stop gaining weight. Or walk an extra mile every day _ and going up and down the stairs counts.It sounds easy to lose weight. But as the sobering statistics show, it is more easily said than done.	E2 E1		
Most people with growing girths _ and it is a worldwide problem _ will in the end be unable to overcome biology and lose much weight unless some big changes occur in society, experts agreed on Thursday.	S4.2		
``Maybe the answer is, in part, reducing our expectations," said Jeffrey Friedman of the Howard Hughes Medical Institute at Rockefeller University in New York.			
More than 60 percent of Americans are overweight. And more than 30 percent are obese, meaning they carry so much extra weight that their health is at real risk. Worldwide, more than 300 million people are obese, according to the World Health Organisation.	S1.1		
In a special issue of the journal Science devoted to obesity, several experts agreed that a consumer-oriented society, and technology that encourages people to exercise less, are conspiring with genetics to make people fatter.	S4.2		
``The US food supply provides 3,800 kilocalories [calories] per person per day, nearly twice as much as required by many adults," wrote Marion Nestle, chair of the Department of Nutrition and Food Studies at New York University.	S1.1		
That means that companies in the food business have to compete for market share _ which they do by advertising more, targeting children, making health claims and offering more ``value for money" in the form of larger portions. ``Food marketing promotes weight gain," Nestle wrote.	S1.2		
But we can just walk it off, argues James Hill of the University of Colorado Health Sciences Center. ``It would take most people only 15 to 20 minutes total to walk an additional miles each day," Hill and colleagues wrote in their report.	P3		
Hill's team used national survey data to figure out that Americans had gained, on average, 6.3 to 7.3 kilogrammes each year over eight years. Figuring that each half kilogramme equals about 3,500 calories, and that the body stores about half of the calories it consumes as fat, they decided that eating 100 fewer calories a day, or burning off 100 more calories a day, would be enough to stop that steady weight gain.	P2		

Data	Description of moves & steps	Agree	Disagree
“Something around 100 calories a day is do-able,” Hill said, adding that 100 calories equals 1.6 kilometres of walking or running, or three bites of a hamburger. But Friedman, best known for his discovery of the fat hormone leptin, said the body will do its best to compensate and sabotage even this modest effort. “The problem is that people are not capable of moderating, unconsciously, their caloric intake. The basic system that regulates weight adjusts your intake upwards to compensate for the calories you burn. It's not so simple as telling someone that all you need to do is eat 100 fewer calories than you burn.” The body has evolved a powerful and complex hormonal system aimed at keeping weight on. “That's what obese people are up against when they are trying to lose substantial amounts of weight,” he said. “They are being thwarted by this metabolic system whose job it is to resist substantial changes in weight.” The answer? More research _ into diets that work, perhaps into safer diet drugs, Friedman said.	P3 S1.1 S1.2 S4.2		
559			

(5) PublicationDate: 12-05-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: fat, cancer, overweight

HEADLINE: Fat can be fatal

SUBHEADLINE: Link between excess weight and cancer confirmed by major study

BYLINE: JANE BRODY

Data	Description of moves & steps	Agree	Disagree
Overweight people are eating their way to an early grave in more ways than they realise.	E1		
While many may know that excess kilogrammes raise the risk of heart disease, hypertension, diabetes, stroke, arthritis, gall-bladder disease and other debilitating and sometimes fatal health problems,	E2		
now a host of cancers can be firmly added to the list.	E1		
No longer is the relationship of excess weight to cancer restricted to just a few cancers like breast and uterine, influenced by hormones produced in body fat.	S1.1		
Rather, as a newly published 16-year study by the American Cancer Society has revealed, deaths from a wide variety of cancers _ including those of the colon and rectum, oesophagus, pancreas, kidney, gall-bladder, ovary, cervix, liver and prostate, as well as multiple myeloma and non-Hodgkin's lymphoma _ are also linked to excess weight and obesity.			
For only a few cancers _ those of the lungs, bladder and brain, in addition to melanoma _ was no link found to excess weight.			
In fact, heavier men and women were less likely to die of lung cancer than those of normal weight, probably because smokers tend to be thinner but are also much more likely to die of lung cancer than non-smokers. When deaths among only those who never smoked were analysed, being overweight was no longer protective against lung cancer.	S1.2		
The study, published on April 24 in The New England Journal of Medicine, found a direct relationship between the amount of excess weight and the risk of death from most cancers.	S1.1		
In other words, the higher the body-mass index, or BMI, a measure of weight in relation to height, the greater the risk of cancer death. Thus, while an overweight man with a body-mass index of 25 to 30 has only a 13 percent greater risk of dying of liver cancer than a man of normal weight (index of less than 25), the risk is almost doubled for a man with an index of 30 to 35 and is four and a half times as great for a man with an index of 35 to 40.	S1.2		
Likewise for women. The risk of death from breast cancer is 34 percent higher in women with a BMI of 25 to 30, 63 percent higher in those with an index of 30 to 35, 70 percent higher in those with an index of 35 to 40 and more than twice as high in those with an index over 40.			
Deaths from uterine cancer showed a similar pattern, with a six-fold increase in risk among women with a body-mass index over 40.			
All told, the heaviest men had death rates from all cancers that were 52 percent higher, and the heaviest women had death rates 62 percent higher than occurred among those of normal weight.			

Data	Description of moves & steps	Agree	Disagree
The study followed 900,000 men and women from 1982, when all were healthy, to 1998. It estimated that 90,000 cancer deaths each year could be prevented if all adults maintained normal body weights. Being overweight or obese ``could account for 14 percent of all deaths from cancer in men and 20 percent of those in women," the authors, headed by Dr Eugenia Calle, concluded. Further, the cancer society authors say, this is a conservative estimate derived from findings that include current and former smokers. If only those who never smoked are taken into account, the cancer risk associated with excess weight is even greater, the authors add. A growing body of biological evidence could explain these observed relationships between cancer and body weight. As the authors point out, ``potential biologic mechanisms include increased levels of endogenous hormones _ sex steroids, insulin and insulin-like Growth Factor I _ associated with overweight and obesity." These substances, produced in excess in overweight people, can stimulate the growth of nascent cancer cells in various organs. For example, the sex steroid oestrogen is firmly established as a growth stimulant for most cancers of the breast, as well as cancer of the uterine lining, or endometrium. Excess fat around the abdomen increases the risk of heartburn, or chronic reflux disease, which causes chronic acid irritation of the oesophagus that can lead to the development of oesophageal cancer. Obesity also increases the risk of developing gallstones, which, in turn, increase the risk of gall-bladder cancer. Excessive production of insulin by the pancreas in people with a high BMI may explain their increased risk of pancreatic cancer. And so on. A further possibility to explain the death rates may be a delay in diagnosis because it is hard to find cancers under layers of body fat or, perhaps, because seriously overweight people may resist routine medical care. Besides a higher incidence of breast cancer in overweight women that could be attributed to oestrogen, their cancers tend to be diagnosed at a later stage, possibly compromising their survival. Perhaps most important in the overall scheme are the effects of dietary constituents and lack of physical activity associated with being overweight and obese. Consuming excess calories starting in early childhood is strongly linked to an increased cancer risk in adults. A long-term British study shows, for instance, that for every increment of 250 calories in the diets of young children, their risk as adults of dying of cancers unrelated to smoking rises by 20 percent. These findings suggest that it is best for children to remain lean, growing up on diets rich in fruits and vegetables and other low-calorie foods, with less emphasis on high-calorie fare like cakes, cookies,	S3.3 S1.2 S4.1		

Data	Description of moves & steps	Agree	Disagree
ice cream, chips, burgers and fries. Last year, the cancer society released extensive new guidelines on diet and exercise to help prevent cancer. These guidelines are based on studies indicating which foods are protective and which may promote cancer development, as well as studies showing a reduced risk of developing certain common cancers, including breast cancer, among people who are physically active. Physical activity ``may decrease exposure of breast tissue to oestrogen" and ``may also affect cancers of the colon, breast and other sites by improving energy metabolism", or the burning of calories. It also may reduce ``circulating concentrations of insulin and related growth factors", the guidelines state. They suggest doing at least 30 minutes or more of moderate activity on five or more days a week, and add that 45 minutes of moderate to vigorous activity is even better. Since the largest percentage of calories in the current American diet comes from foods high in fat, sugar and refined carbohydrates, the guidelines note that reducing consumption of these less wholesome ingredients could lower both caloric intake and production of insulin and other growth factors that may promote cancer. The guidelines call for daily consumption of at least five servings a day of fruits and vegetables, which are rich sources of antioxidants, vitamins and minerals and other phytonutrients that in animal studies have been shown to protect against cancer development and growth. They also urge the consumption of whole grains like whole wheat breads and cereals, brown rice and oats, which are rich in fibre and contain protective vitamins and minerals missing in refined starches. As for dietary fat, the guidelines call for reduced consumption of fat overall and especially fats in red meats. High-fat diets have been linked to higher risk of cancers of the rectum, colon, prostate and endometrium. But the fats in fish, as well as monounsaturated oils like olive and canola, and dried peas and beans, appear to protect against cancer. 1235	M1		

(6) PublicationDate: 13-01-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: heart attack

HEADLINE: Cheers indeed!

SUBHEADLINE: It's how often you drink, not what you drink, that helps the heart

BYLINE: JANET MCCONNAUGHEY

Data	Description of moves & steps	Agree	Disagree
Scientists know drinking can prevent heart attacks, but new research shows that how often you imbibe is a lot more important than what or how much.	E2 E1		
As little as half a drink every other day is enough to reduce the risk, regardless of whether it is beer, red wine, white wine or liquor, the study indicates. Whether you drink it with your meal or at some other time also appears irrelevant.	S1.1		
“It was a surprise that _ almost regardless of other factors associated with drinking _ frequency of use seemed to be what reduced the subsequent risk of a heart attack,” said Dr Kenneth Mukamal of Harvard University Medical School, who led the study.	S4.2		
Those who drank at least three days a week had about one-third fewer heart attacks than did non-drinkers. And it made almost no difference whether the drinking consisted of half a drink or four. Those who imbibed only once or twice a week had only a 16 percent lower risk of a heart attack.	S1.2		
Some studies have indicated that alcohol raises the level of “good” cholesterol and also thins the blood, warding off the clots that cause heart attacks.	P2		
But alcohol breaks down fairly rapidly in the body and its effects on red blood cells are short-lived, according to Mukamal.	S4.2		
Mukamal speculated that regular, moderate drinking is beneficial because it helps keep the blood thinned.			
“We think it may be much like people who take aspirin every day or every other day. A little bit of alcohol on a regular basis helps keep the platelets from becoming sticky and prevents heart attacks,” he said.			
He noted that other studies have found that people with a gene that keeps alcohol longer in their system seem to benefit the most from moderate drinking.	S4.1		
“That helps reinforce the notion that maintaining a low level of exposure is the way to go,” he said.	S4.2		
Mukamal and other doctors emphasised that the study applies only to moderate drinkers.	P1		
The dangers of heavy drinking are well-established and include alcoholism, drunken driving, and damage to the liver and brain. Studies have also found that women who have two or more drinks a day are 41 percent more likely to develop breast cancer than women who do not drink.			

Data	Description of moves & steps	Agree	Disagree
Doctors have long believed that red wine explains the so-called French Paradox _ the fact that the French have fewer heart attacks than Americans even though their food is richer.	P2		
But the new study adds to the evidence that it is the alcohol itself, and not something found only in red wine, such as red pigment, that is good for the heart.	S1.2		
Mukamal analysed data from a long-term study of 51,529 male health professionals _ doctors, osteopaths, dentists, optometrists, podiatrists and veterinarians. He looked at 38,077 of them, eliminating people who had stopped drinking within the previous 10 years and those with histories of cancer and diseases of the heart or blood vessels.	S3.3		
Dr Lynn Smaha, a cardiologist in Sayre, Pennsylvania, and a past president of the American Heart Association, said the study leaves some important questions unanswered. Among them: whether it would apply to a wider group than health professionals, who may take better care of themselves than the average drinker.	P1		
Smaha also noted that the overall rate of heart attacks _ 1,418 cases out of 38,000 people _ was very low, for reasons that were not clear. He said he will continue to be very cautious in what he tells his patients about drinking.			
581			

(7) PublicationDate: 13-01-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: cocaine, depression

HEADLINE: Cocaine may impair 'pleasure circuits'

SUBHEADLINE: Study also suggests reason for higher depression rates among heavy users

BYLINE: MALCOLM RITTER

Data	Description of moves & steps	Agree	Disagree
Chronic cocaine use harms brain circuits that help produce the sense of pleasure, which may help explain why cocaine addicts have a higher rate of depression, a study suggests.	E1		
It's not clear whether cocaine kills brain cells or merely impairs them, or whether the effect is reversible, said study author Dr Karley Little.	P1		
But it's bad news for cocaine addicts in any case, he said.	S4.2		
"I personally wouldn't want to lose 10 or 20 percent of my reward-pleasure centre neurons, or have them just deranged or not working right," said Little, of the Veterans Affairs Medical Center in Ann Arbor, Michigan, and the University of Michigan.			
He and colleagues studied brain samples taken during autopsies from long-term, heavy cocaine users.	S3.3		
Their results were reported in the January issue of the American Journal of Psychiatry.	S3.1		
Little said the research did not reveal whether the brain impairment resulted from years of use or just recent use before death.	P1		
Stephen Kish, head of the human brain laboratory at the Center for Addiction and Mental Health in Toronto, said researchers have "always considered cocaine to be a dangerous drug" because of its potential for addiction and harm to the heart.	S4.2		
"We now have to add to the list [of risks] a damaging effect of cocaine on the brain, which was something we never expected before," Kish said.			
The research provides "a piece of the puzzle" in explaining why cocaine users run a higher risk of depression, said Dr Deborah Mash, a neuroscientist at the University of Miami School of Medicine.			
It remains unclear whether cocaine causes depression or whether people start using the drug because they are depressed.	P1		
But in either case, Mash said, the study suggests brain changes could "light the fuse" for depression in a cocaine user who is prone to it.	S4.2		
In the study, Little and colleagues studied brain-autopsy specimens from an area called the striatum in 35 cocaine users and 35 non-users of similar age and sex.	S3.3		
They measured levels of a protein called VMAT2, which is found in brain cells that signal each other with a chemical called dopamine. Dopamine neurons form circuits that are critical for the brain to feel pleasure.			
363			

(8) PublicationDate: 14-04-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: children-obesity

HEADLINE: Troubled minds

SUBHEADLINE: Self-esteem of obese children far below that of peers

BYLINE: LINDSEY TANNER

Data	Description of moves & steps	Agree	Disagree
A study has found a startling level of despair among obese children, with many rating their quality of life as low as that of young cancer patients on chemotherapy.	E1		
The research published in Journal of the American Medical Association offers a sobering glimpse of what life is like for many obese youngsters.	S3.1		
They are teased about their size, have trouble playing sports and suffer physical ailments linked to their weight.	S2		
Obesity researcher Kelly Brownell, who runs a Yale University weight disorders centre, said the increasing prevalence of obesity hasn't made it any less stigmatising.	S4.2		
"It just breaks your heart," Brownell said, relating a story from a Yale patient who recalled being absent from school as a child and learning the teacher had told the class, "She's probably home eating."			
In the study, 106 children ages five to 18 were asked to rate their well-being on physical, emotional and social measures.	S3.3		
The dismal scores were far lower than anticipated, said lead author Dr Jeffrey Schwimmer, a paediatric gastroenterologist at the University of California in San Diego.	S4.2		
"The magnitude is striking," Schwimmer said.			
"The likelihood of significant quality-of-life impairment was profound for obese children."			
Obese youngsters were more likely to miss school than healthy, mostly normal weight kids. Schwimmer said that's probably because they suffered more weight-related physical ailments and endured more teasing at school.			
A JAMA editorial noted that study participants had a more than a five-fold increased risk of reporting low quality of life than healthy youngsters.	S1.1		
"It seems clear that one of the most compelling medical challenges of the 21st century is to develop effective strategies to prevent and treat paediatric obesity," Drs Jack and Susan Yanovski of the National Institutes of Health said in the editorial.	S4.2		
The study participants filled out questionnaires last year used by paediatricians. The youngsters rated such things as their ability to walk more than one block, play sports, sleep well, get along with others and keep up in school.	S3.3		

Data	Description of moves & steps	Agree	Disagree
Obese youths scored an average of 67 points out of 100 _ 16 points lower than a group of 400 mostly normal weight children. The obese children's scores were similar to quality of life self-ratings from a previously published study of about 100 paediatric cancer patients. Girls and boys appeared to be equally adversely affected by obesity. Youngsters were aged 12 on average, with an average height of 155 centimetres and average weight of 78 kilogrammes. Obesity-related ailments were common. “Even in the absence of these physical conditions, children and parents reported a low quality of life,” Schwimmer said. Parents answered the same questionnaires, and their ratings of their children's well being were even lower than the youngsters' self-ratings, he said. 447	S1.2		

(9) PublicationDate: 14-04-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: epilepsy drug, diet

HEADLINE: Drug reduces obesity

Data	Description of moves & steps	Agree	Disagree
An epilepsy drug combined with a reduced-calorie diet may result in significant weight loss for obese adults, according to one of several obesity studies in this week's Journal of the American Medical Association.	E1		
The epilepsy drug research was prompted by reports of unintentional weight loss in epilepsy patients using zonisamide to prevent seizures.	S3.2		
In the Duke University study, participants who took zonisamide daily for 16 weeks lost an average of nearly 5.9 kilogrammes compared with just less than one in patients given dummy pills.	S1.1		
Both groups also ate 500 fewer calories daily in a diet monitored by a dietitian, and were encouraged to increase their activity levels. Patients were mostly women, aged 21 to 50, and weighed over 90 kilogrammes on average.	S3.3		
The study was small _ just 60 patients _ and the results are preliminary,	P1		
but they suggest the drug could be a promising addition to efforts to control the US obesity epidemic, according to a research team led by Duke's Dr Kishore Gadde.	S4.2		
Some 30 percent of US adults are obese and 60 percent are overweight.	S2		
The study was funded by Elan Biopharmaceuticals, makers of zonisamide, which is sold under the brand name Zonegran.	S3.1		
Also in Wednesday's JAMA:	S4.1		
A Harvard University study of more than 50,000 women bolsters the link between sedentary lifestyles and obesity, finding a 23 percent increased risk of obesity and a 14 percent increased risk of diabetes for every two hours of television watched daily.			
By contrast, watching less than 10 hours of TV weekly and engaging in brisk walking at least half an hour daily reduced the obesity and diabetes risks by 30 percent and 43 percent respectively.			
The prescription diet drug Meridia helped adolescents lose weight when combined with behaviour therapy, but also was linked with increases in pulse rate and blood pressure that have been found in adults.	P1		
The research team led by Dr Robert Berkowitz of the University of Pennsylvania said the drug should only be used on an experimental basis in adolescents and children ``until more safety and efficacy data are available.'' _ AP	P3		
Warning signs of diabetes in the young	S1.2		
Children and teenagers may be at increased of type two diabetes, the adult form of the disease, if they have: Obesity, especially increased fat around the abdomen.			

Data	Description of moves & steps	Agree	Disagree
Acanthosis nigricans, unusually dark, dirty-looking skin around the back of the neck and under the arms. A family history of diabetes. Among symptoms that should prompt immediate evaluation by a doctor: Unusual thirst. Frequent urination. Unexplained weight loss despite obesity. Blurry vision. Excessive hunger. Cuts that do not heal. Yeast or fungal infections in girls. 436			

(10) Publicationate: 20-01-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: sponge, cancer, cancer drug

HEADLINE: Underwater search for cancer cures

SUBHEADLINE: Scientists hope rare sea sponges will provide remedies for a range of diseases

BYLINE: JILL BARTON

Data	Description of moves & steps	Agree	Disagree
Scientists plunging to deep corners of the ocean are finding rare sponges that they hope, against astronomical odds, could lead them to a cure for cancer or other diseases.	E1		
Researchers at Harbor Branch Oceanographic Institution pull hundreds of new specimens from the sea every year, hoping at least one of them will be tougher than the cancer cells they carefully grow in a laboratory.	S3.2		
The team journeys to polluted and pristine waters throughout the year to collect sea life using a submarine equipped with mechanical claws and arms to pull in bunches of orange, yellow and brown sponges that have developed their own systems of self protection.	S3.3		
Most of the sponges have never been seen before.			
"Nature can crank these things out, but to make them in a laboratory would be very difficult," said Amy Wright, division director at Harbor Branch.	S4.2		
The National Cancer Institute estimates that about 65 percent of all cancer drugs come from marine life and plants — their bark, roots, leaves and fruits. One of the more widely used anti-cancer drugs, Taxol, comes from the bark of Pacific yew trees.	S2		
But it usually takes thousands of tests to find one promising lead.			
In 18 years of studies, only one sponge discovered by Harbor Branch has been promising enough to lure a pharmaceutical company's interest.	S1.1		
A compound within the sponge, called Discodermolide, has stopped cancer cells from reproducing in early tests. In 1990, the institution secured a patent for the compound, hailed as its most important discovery.			
Harbor Branch focuses on marine sponges because they are stationary and develop toxic chemicals to ward off predators, Wright said. The hope is that the chemicals within the sponges will kill cancer cells without hurting healthy human cells.	S3.2		
The research institution is one of about half a dozen looking to marine life for cancer cures, and it specialises in deep-water discoveries. To accomplish dives of up to 900 metres, Harbor Branch built three submersibles that are launched from its research vessels.	S3.1		
One of the vessels, named after the institution's founder, Seward Johnson, is 61 metres long and can travel any of the world's oceans.	S3.3		
The research vessels take crews of up to 40 people, including 15 scientists, into the Atlantic Ocean, Caribbean Sea and Gulf of Mexico several times throughout the year.			
Teams of researchers typically stay at sea for two to three weeks, using a submersible each day to search for rare sponges.			

Data	Description of moves & steps	Agree	Disagree
The group looks for anything out of the ordinary. The scientist who discovered the sponge that yielded Discodermolide found it in surprisingly shallow waters about 150 metres deep during a scuba dive in the Caribbean. The non-profit institution operates under two five-year grants from the National Institutes of Health worth a total of \$750,000 (31.5 million baht) a year, along with five smaller grants from the National Science Foundation that pay about \$160,000 (6.7 million baht) annually. During the scientists' research cruises, samples collected from the submersibles are put in a large freezer on the research vessel. Once they return to Harbor Branch, researchers grind up small pieces of the specimens with ethyl alcohol. They then pour the mixture through a filter into test tubes, producing extracts as brightly coloured as the sponges they collect. The extracts are dropped into vials containing laboratory-grown cancer cells. If the extract kills 50 percent or more of the cancer cells, it undergoes more testing, but the vast majority don't continue to yield encouraging results. ``Those cancer cells can tolerate a lot. They're tough," said research specialist Pat Linley. Linley grows lung cancer, pancreatic cancer and breast cancer cells in the lab and would be the first to see whether a new discovery could hold as much promise as Discodermolide. Swiss pharmaceutical giant Novartis Pharma is working to develop a drug from the compound. Tests show that in lower concentrations, the compound is at least as effective as the widely used anti-cancer drug Taxol, Wright said. ``It's like a funnel where you feed in lots of materials and you end up with very few winners," said Gordon Cragg, chief of the natural products branch at the National Cancer Institute. ``But of course the ultimate reward is when you do end up with something good." He said between 1960 and 1982, the National Cancer Institute collected 35,000 plant samples and made 114,000 extracts to test against cancer. Only two of those extracts produced ``interesting" leads, Cragg said. Developing anti-cancer drugs is particularly difficult because cancer cells are so similar to human cells, and it's hard to kill one and not the other, Cragg said. Current chemotherapy drugs kill cancer cells but also aren't selective enough, which is why they can cause nausea, vomiting and hair loss. ``But there are slight differences and what you have to try to take advantage of are those small differences," Cragg said. ``The big hope is you can kill off the cancer cells without hurting the patient too much."	S3.1 S3.3 S4.2 S3.2 S4.1 S4.2		
823			

(11) PublicationDate: 20-01-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: cancer treatment, chemotherapy

HEADLINE: Cancer treatment hits memory

SUBHEADLINE: Scientists find a link between mental function problems and chemotherapy

BYLINE: MARY DUENWALD

Data	Description of moves & steps	Agree	Disagree
Psychologists are beginning to verify what many breast cancer survivors have long suspected: Chemotherapy can, in some cases, cause problems with memory and concentration.	E1		
Various studies have found that 20 to 30 percent of women who undergo chemotherapy for breast cancer, as well as other patients who receive similar treatment for lymphoma, score lower than average on tests of mental function for as long as 10 years after their chemotherapy.	S1.1		
"There's enough data now to at least know it's a real effect," said Dr Ian Tannock, a psychiatrist who has led studies of the phenomenon at Princess Margaret Hospital in Toronto.	S4.2		
Patients report memory problems much like those linked to ageing. They cannot remember where they put their keys or recall lists of things they had planned to accomplish. Some report being easily distracted or losing the ability to calculate in their heads.	S1.2		
"Part of the reason that this whole issue is coming more to the fore now is that we're seeing increasing numbers of long-term cancer survivors who are wanting to get back to their routines, so more people are having problems," said Dr Tim Ahles, a psychologist at the Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire.			
Breast cancer survivors seem to report the problem more than people with other cancers, doctors say, but they suspect this may be because the breast cancer patients are such a large, well-organised group with many channels of communication.			
The research has also centred on breast cancer because of its high survival rate, though the effect probably occurs in people with other cancers, because they receive the same kinds of chemotherapy, the researchers said.			
The studies suggest that the risk of mental impairment _ what some patients call "chemo brain" or, in Canada, "chemo fog" _ rises with the intensity of the chemotherapy.			
In one of the first studies of the side effect, researchers at the Netherlands Cancer Institute in Amsterdam found that women who received high-dose chemotherapy for breast cancer were eight and a half times as likely to show signs of mental impairment as breast cancer survivors who had been treated with radiation or surgery but no chemotherapy.	S4.1		

Data	Description of moves & steps	Agree	Disagree
Thirty two percent of those who had had high-dose chemotherapy scored low on tests of mental ability. About 17 percent of women who had had standard-dose chemotherapy showed signs of impairment. Although it is possible that some impairment could be due to normal ageing, Dr Frits van Dam, a psychologist who led the Dutch research team, said that the patients in his study had reported that they had not experienced any mental capacity problems before their cancer treatments. Exactly how chemotherapy may impair the mind is not known. In the case of breast cancer survivors, van Dam said, it is not even clear that chemotherapy is entirely to blame. ``It may also be caused by hormonal changes," van Dam said.</p> <p>``When you have premenopausal women in high-dose chemotherapy, they suddenly become menopausal. Maybe when they are rushed into menopause in this way, it has an effect." 503	S4.2 P1 P3		

(12) PublicationDate: 20-01-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: surgery

HEADLINE: Patients get more than they bargained for
 SUBHEADLINE: Surgeons leave tools in 1,500 patients a year, according to study

BYLINE: JEFF DONN

Data	Description of moves & steps	Agree	Disagree
Surgical teams accidentally leave clamps, sponges and other tools inside about 1,500 patients across the United States each year, according to the biggest study of the problem yet.	E1		
The mistakes largely result not from surgeon fatigue, but from the stress arising from emergencies or complications discovered on the operating table, the researchers reported.	S1.2		
It also happens more often to fat patients, simply because there is more room inside them to lose equipment, according to the study.			
Both the researchers and several other experts agreed that the number of such mistakes is small compared with the roughly 28 million operations a year in the United States. ``But no one in any role would say it's acceptable," said Dr Donald Berwick, president of the Boston-based non-profit Institute for Healthcare Improvement.	P1 S4.2		
The study was done by researchers at Brigham and Women's Hospital and Harvard School of Public Health, both in Boston. It was published in Thursday's New England Journal of Medicine.	S3.1		
The researchers checked insurance records from about 800,000 operations in Massachusetts for 16 years ending in 2001. They counted 61 forgotten pieces of surgical equipment in 54 patients. From that, they calculated a national estimate of 1,500 cases yearly. A total of \$3 million (129 million baht) was paid out in the Massachusetts cases, mostly in settlements.	S3.3		
Two thirds of the mistakes happened even though the equipment was counted before and after the procedure, in keeping with the standard practice.	S1.2		
Most lost objects were sponges, but also included were metal clamps and electrodes. In two cases, 28-centimetre retractors _ metal strips used to hold back tissue _ were forgotten inside patients. In another operation, four sponges were left inside someone.			
The lost objects were usually lodged around the abdomen or hips but sometimes in the chest, vagina or other cavities. They often caused tears, obstructions or infections. One patient died of complications, but the researchers withheld details for reasons of privacy.			
Most patients needed additional surgery to remove the object, but sometimes it came out by itself or in a doctor's office. In other cases, patients were not even aware of the object, and it turned up in later surgery for other problems.			

Data	Description of moves & steps	Agree	Disagree
The study found that emergency operations are nine times more likely to lead to such mistakes, and operating-room complications requiring a change in procedure are four times more likely. A rise of one point in body-mass index, a measure of weight relative to height, raises the chances of such a mistake by 10 percent. The length of the operation or the hour of day does not appear to make a difference, suggesting that fatigue does not cause such mistakes. “It tends to be in unpredictable situations,” said lead author Dr Atul Gawande of Brigham and Women's Hospital. Some other researchers said fatigue could promote such mistakes in a way undetected by this study. The Boston research team suggested that more X-ray checks be done right after those operations where such errors are most likely. Metal instruments and radiologically tagged sponges show up in such checks. 506	S4.2 P3 M1		

(13) PublicationDate: 02-06-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: diet, Robert Atkins, weight loss

HEADLINE: Weight loss controversy continues
 SUBHEADLINE: Kilogrammes lost on Atkins diet may quickly return

BYLINE: JANE BRODY

Data	Description of moves & steps	Agree	Disagree
The Atkins diet gained a modicum of respectability this month when scientists reported that two clinical trials found the high-fat, high-protein, low-carbohydrate diet did not cause disastrous increases in serum cholesterol and even reduced one or two cardiac risk factors.	E1		
The studies, reported in The New England Journal of Medicine, compared the effects on weight loss and cardiovascular risk factors of the Atkins scheme with the conventional low-fat, low-calorie diet recommended by most health experts.	S3.3		
Both diets resulted in weight loss, but participants on the Atkins diet lost more weight, faster.	S1.1		
But it is too soon to jump on the Atkins bandwagon in hopes of achieving bathing-suit slimness.	P3		
Yes, the diet does help obese people lose weight quickly, and those wanting to shed 4.5 kilogrammes in the next four weeks could achieve that goal.	P1		
But the research suggested that within several months many, if not most, are likely to be back to their starting weight.			
The first two to three kilogrammes lost on Atkins are not fat but water, released by the body when it gets little or no starch or sugar from food. So as soon as you are unable to resist that bun with your burger or a cooling ice cream cone, thirst-quenching watermelon or a bag of fries, those lost kilogrammes are likely to come bounding back.			
Neither of the new studies was designed to determine either long-term safety or effectiveness of this regimen, which puts foods like bread, pasta, rice, corn, potatoes, carrots, tomatoes, bananas, winter squash, dried beans and peas, cereal and, of course, cake, ice cream, pies, cookies, sweet rolls, doughnuts, candy and bagels on the don't-eat-them list and suggests instead indulging in bacon and eggs, steaks and cheese, cream (but not milk) and butter instead.			
The predictions were that this diet would spell disaster for the heart and blood vessels.	S3.2		
But the new studies showed for the first time in randomised clinical trials that there may be some cardiovascular benefits to this high-fat regimen.	S1.1		
As expected when people lose weight, cholesterol levels did not rise (indeed, they fell in some participants) and, as expected when the diet contains little sugar and refined starches, triglyceride levels fell. Insulin sensitivity also improved _ again, no surprise when limited carbohydrates are consumed.	S1.2		

Data	Description of moves & steps	Agree	Disagree
Perhaps the only surprise finding among Atkins participants was a rise in the so-called good cholesterol, protective HDLs, which may indicate that the body compensates for a diet rich in saturated fats and cholesterol by producing more of the substance that helps to keep arteries clear of fatty deposits. As noted in the editorial accompanying the reports, the two studies, which involved obese or severely obese participants, were short-term. (One lasted six months and the other a year.) About 40 percent of the participants dropped out of the studies and were lost to follow-up. In other weight-reduction studies, dropouts are usually people who fail to lose weight or regain their losses. It nearly always means that they did not stay on the diet. Among those who did stay in the programmes, the differences in the amount of weight lost on the two diets were not drastic and, in the one-year study, those following Atkins starting gaining weight back after six months, resulting in no significant weight-loss differences between the two diets by the end of the year. Atkins advocates are fond of blaming low-fat diets for the astronomical rise in obesity among Americans in the last 20 years. They say that as people spurned fats they turned to carbohydrates instead and started gaining weight. But three facts must be noted: Americans are not eating less fat; rather, per capita consumption of fat has risen by 4.5kg a year since 1973. All things being equal (which they are not), this alone would result in an average of 5kg than people weighed 30 years ago. Americans are also eating more carbohydrates, but not the whole grains, fruits and vegetables that weight-control experts and health promoters recommend. They are eating far more sugars (9kg more per capita since 1975, another 4.5kg of body weight) and more refined starches as they overindulge in fat-free or low-fat cakes, crackers and so on. Americans are eating more calories, which is the real cause of weight gain. That is why the percentage of calories from fat has fallen while total fat intake has not. These dietary changes have been accompanied by an overall decline in physical activity. In other words, Americans are consuming more calories and burning fewer. That is why they have an obesity epidemic. A final _ and critically important _ unknown remains the long-term safety of a diet rich in saturated fats and limited in the whole grains, fruits and vegetables that countless studies have linked to reduced rates of heart disease, stroke and cancer, the nation's leading killers. It is perhaps worth noting that the precipitous gain in the numbers of obese and overweight people has occurred during the 30 years since Dr Robert Atkins, who died on April 17, first published his ``diet revolution".	P1 S2 P1		

Data	Description of moves & steps	Agree	Disagree
Since the diet's resurgence in recent years, there has been no notable turnaround. Recent studies have strongly suggested that carbohydrate-rich, low-fat diets with only modest amounts of protein may be less effective in achieving and maintaining weight loss. Fat and protein are digested more slowly than carbohydrates and may delay the return of hunger. Also, while it may be easy to overeat or binge on cake or cookies, few people can consume large quantities of burgers without buns and unsweetened whipped cream. That is why, as the new studies show, Atkins adherents eat fewer calories than they did before starting the diet, and it is this calorie reduction that accounts for their weight loss. If you want to try a diet that many experts concerned about both weight and health now recommend, it should contain about 25 percent of calories from fats primarily from vegetable sources like olive, canola and nut oils, avocados, beans, nut butters, nuts and seeds, along with fish and lean red meats and poultry adding up to about 20 percent to 25 percent of calories from protein. Rounding out this diet are whole grains and ample amounts of vegetables and fruits. On this less restrictive diet, the weight loss may be slower than with Atkins, but it is more likely to stick. 1054	S4.1 S1.2 M2		

(14) PublicationDate: 21-04-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: progeria

HEADLINE: Early ageing

SUBHEADLINE: Disorder caused by a single 'misspelling' or misplaced DNA molecule

BYLINE: PAUL RECER

Data	Description of moves & steps	Agree	Disagree
A rare disorder that turns children into old people and often causes them to die in their teens has been linked to a single genetic mutation, a finding that may help science learn more about normal ageing as well.	E1		
The disorder, called Hutchinson-Gilford progeria syndrome, is caused by a single "misspelling" or misplaced DNA molecule within the human genome that contains some three billion DNA units, said Dr Francis Collins, head of the National Human Genome Research Institute and the senior author of a report appearing this week in the journal Nature.	S2		
Victims of progeria appear normal at birth, but by 18 months begin to develop symptoms of accelerated ageing. The skin takes on the appearance of the very old, bones become fragile and most of the children are bald by the age of four. The children never grow much taller than one metre. Their internal organs also quickly age and death is usually caused by heart disease or stroke at an average age of 13.			
Even as teenagers, said Dr W. Ted Brown, the children with progeria will weigh only 13 to 16 kilogrammes.			
Children with the disorder, however, tend to have above-average intelligence, said Brown, a co-author who has studied progeria for 20 years at the New York State Institution for Basic Research in Development Disabilities.			
John Tacket, a 15-year-old from Bay City, Michigan, who has progeria, said at the news conference that he was just a regular guy who is "very content" even though he knows his disease is fatal.			
Tacket, who stands about one metre high, is a ninth grader who is a whiz at math and an expert pool player. He has a job as a cashier at a Bay City restaurant. But angina, a symptom of advancing heart disease usually seen in people in their 60s and 70s, is already causing him to limit some physical activities. A scarf covered his bald head.			
Progeria affects only about one baby per four million to eight million worldwide.			
The disease was first identified in 1886, but Brown said it has been difficult to study because "there are only a handful or so alive at one time". He said about one patient with progeria is born each year in the US.			
Collins and his co-authors found the mutation on a gene called lamin A in DNA specimens from 18 of 20 progeria patients.	S1.1		
A similar study, appearing in the journal Science, found	S4.1		

Data	Description of moves & steps	Agree	Disagree
the gene mutation in two progeria patients. Lamin A, or LMNA, has already been linked to six other diseases. The mutation and the effect is slightly different, on a molecular basis, in each of the diseases. Linking LMNA to ageing, said Collins, means that studying the gene ``may provide us with a better understanding of what occurs in the body as we all grow older."</p> <p>Collins said that disease is not genetically inherited but develops ``de novo", or new, in each patient. He said there is a suggestion that the progeria gene is transferred to the embryo through a flaw in the genes of the father's sperm. In the study, Collins said researchers looked at the genetic compliment of 20 progeria patients and their parents. He said they found 18 of the patients shared the same mutation in the LMNA gene on Chromosome 1. The flaw, he said, was a substitution of single DNA base. The amino acid guanine is switched to adenine. ``Initially, we could hardly believe that such a small substitution was the culprit," said Maria Eriksson, a researcher at the NHGRI and the first author of the study in Nature.</p> <p>``How could these bland-looking mutations lead to such terrible consequences?" Collins said that only recent advances in sequencing of the human genome, or genetic structure, enabled researchers to find the misplaced amino acid. An international consortium, which includes the NHGRI, announced last week that the human genome has now been sequenced to an accuracy of 99.99 percent and that the whole genome was now available on the Internet. Collins said that the next step for progeria researchers is to find a drug that corrects the specific flaw from the mutate LMNA gene. Eventually, it may be possible to correct the gene itself, he said. But Collins said researchers also are going to now look at people who live to be very old see if the is some element of their LMNA gene that makes them resistant to the diseases of ageing. 739	S1.2 S3.3 S1.2 S4.2 S4.1 M1		

(15) PublicationDate: 21-04-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: deaf

HEADLINE: Deafness is underdiagnosed

Data	Description of moves & steps	Agree	Disagree
Hearing loss in the elderly is easily treated but often under-diagnosed by doctors who in some cases wrongly consider it an inevitable part of ageing, a study found.	E1		
The most common cause of deafness in older adults is nerve damage, which is not reversible but can be substantially improved with hearing aids and sometimes surgery for severe cases, said Dr Bevan Yueh, an ear specialist with a Seattle-area Veterans Affairs centre and the University of Washington.	S2		
But reversible hearing loss also occurs in older adults, caused by common conditions including infections that can be treated.			
Many patients and primary-care doctors are ill-informed about both types of hearing loss and consider it an untreatable effect of ageing, Yueh said.	S1.1		
In a report in Wednesday's Journal of the American Medical Association, Yueh and colleagues reviewed previous studies on methods to detect hearing loss and the effectiveness of treatments.	S1.2		
They said research indicates that hearing loss affects up to 40 percent of adults aged 65 and older. It is strongly linked to depression and decreased quality of life, but the researchers said fewer than 10 percent of internists offer routine testing to older patients.			
Some types of hearing loss, including gradual nerve-related impairment, might not be obvious in a quiet doctor's examination room _ and patients might not bring it up. ``Because it's so gradual, people say, 'It's OK, I'll get used to it.' In the meantime, they're getting depressed, losing all their friends and becoming socially isolated," Yueh said.			
Dr Munsey Wheby, president of the American College of Physicians, which represents 115,000 internists and medical students, agreed that hearing loss is under-detected in older adults, partly because of lack of awareness among some primary-care doctors.	S4.2		
Wheby said mild hearing loss might be missed in routine exams because ``there are subtle changes that people are able to compensate for or fake it a little."			
Only 25 percent of patients with treatable nerve-related hearing loss receive hearing aids, the study found.	S1.2		
Simple tests to detect hearing loss include a 10-item questionnaire and a tone-producing hand-held device called an audioscope, the researchers said.	S3.3		
Audioscopes also can detect wax buildup and a middle-ear condition called serous otitis that might follow colds or other respiratory illnesses.			
The condition can impair hearing, is more common than thought in older adults, and can sometimes lead to deafness if ignored.	S1.2		
Treatments can include antibiotics, but patients with persistent conditions should be referred to specialists for other treatment. _ AP	M2		
409			

(16) PublicationDate: 24-02-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: epilepsy

HEADLINE: A wake-up call for doctors

SUBHEADLINE: Sudden unexpected death in epilepsy patients more common than previously thought

BYLINE: LINDA CARROLL

Data	Description of moves & steps	Agree	Disagree
For years, doctors have reassured epilepsy patients that seizures are relatively benign. While a fall during a seizure may cause injury, the surge of electricity in the brain does no actual damage, patients were told.	E2		
But mounting evidence now suggests that repeated seizures can harm the brain _ or, in rare cases, even lead to death.	E1		
In the past decade, research in epilepsy has exploded. In part, the boom has been driven by advances in biology and technology, like the mapping of the genome and the continuing miniaturisation of electronics.	S3.2		
But largely, it has been driven by a new recognition that seizures themselves are harmful. Mounting data point to damage to the hippocampus, the part of the brain responsible for laying down new memories, as the cumulative effect of a lifetime of uncontrolled seizures.			
Furthermore, recent studies suggest that seizures beget seizures: Each electrical surge in the brain causes changes that make future seizures more likely.			
Doctors are also realising that patients with seizures that are not suppressed by drugs or surgery are at higher risk of dying prematurely. A syndrome called sudden unexpected death in epilepsy patients, or Sudep, appears to be much more common than previously thought. No one is sure exactly what happens in the syndrome, but the suspicion is that an electrical short circuit either turns off respiration or the heart.			
Among patients with severe epilepsy, about 10 to 15 of 10,000 die unexpectedly each year, according to Dr Robert Fisher, a professor of neurology at Stanford. Often patients and their families know nothing about the syndrome, until there is a death.	S2		
In a commentary published last spring in The Lancet, the London-based medical journal, epilepsy experts pointed to new information on the prevalence of the sudden death syndrome among patients with poorly controlled seizures and said the information should serve as a ``wake-up call" to the doctors who treat them.	S4.2		
``Sudep is not rare among patients with uncontrolled epilepsy," wrote Dr Timothy Pedley, the chairman of the department of neurology and the neurologist in chief at the Columbia-Presbyterian Medical Center in New York.			
``Patients at risk should be identified, and they and their families should be educated about this possibility," Pedley added. ``Relatives of patients with Sudep consistently indicate that they wish they had been informed that epilepsy can be fatal."			

Data	Description of moves & steps	Agree	Disagree
Epilepsy is a condition characterised by periodic seizures that originate in the brain. Basically, experts say, normal brain activity is fairly chaotic, with neurons sparking as needed. But in people with epilepsy, neurons occasionally begin to fire in sync. There is a power surge and the finer circuits of the brain are overwhelmed as the seizure progresses. The seizures themselves can range from a brief loss of consciousness lasting one to 10 seconds to a complete loss of consciousness. It is the seizures that provoke a loss of consciousness that most worry researchers because these seizures appear to be most linked to sudden death and damage to the hippocampus. Although there were hints in the past that uncontrolled seizures led to hippocampal damage, only in the last few years has strong evidence been accumulated. In June, Australian researchers reported that a group of epileptic patients with uncontrolled seizures, monitored with magnetic resonance imaging for more than three years, experienced significant decreases in the size of their hippocampi, according to a study published in The Annals of Neurology. On average, the volume of the hippocampus dropped by nine percent. The more seizures the patients had, the more their hippocampi shrank. Brain changes are also seen in children who experience fever-related seizures, says Dr Shlomo Shinnar, a professor of neuroscience and the director of the epilepsy management centre at the Montefiore Medical Center in New York. Among a small minority of children who experience seizures that last more than 20 minutes, MRI studies have shown signs of swelling in the hippocampus, Shinnar said. He and his colleagues plan to study whether these long-lasting seizures lead to epilepsy later in life. Further evidence of damage from seizures comes from a study of epileptic rats, which was published in May in the book Do Seizures Damage the Brain? That study showed memory damage with repeated seizures. Rats that experienced 30 or more seizures had trouble remembering how to get through a maze. Those that had fewer seizures had no problem. When the researchers examined the rats at the end of the study, they found significant loss of nerve cells in the hippocampi of rats that had 30 or more seizures. Seizures can be controlled in most patients. Medications block seizures in two-thirds of patients and surgery controls seizures in another seven to eight percent. But a full 25 percent of patients must live with the seemingly unpredictable surges of electricity. Solutions for those 25 percent may come from new research into the genetics of epilepsy.	S2 S1.1 S4.1 S1.2		

Data	Description of moves & steps	Agree	Disagree
Because epilepsy often turns up in families only sporadically, it can be difficult to tease out the genetics of the disorder. But researchers are beginning to learn more about the common types of epilepsy by studying families with rare but highly heritable forms of the disorder, said Dr Jeffrey Noebels, a professor of neurology, neuroscience and molecular genetics at the Baylor College of Medicine in Houston. Epilepsy genes found in the past few years have pointed to problems with ion channels in nerve cells. Ion channels are basically pores that let ions _ charged atoms, like sodium, potassium and calcium _ into nerve cells, Dr Noebels said. Normally the pores open for a millisecond or two, allowing ions to rush in, and then slam shut. The neuron becomes charged and ``sparks", sending its signal to the next neuron in line. When genes that encode the ion channels have a certain kind of defect, the pore does not slam shut, said Dr Alfred George Jr, a professor of medicine and the director of the division of genetic medicine at Vanderbilt University in Nashville. George has studied the behaviour of neurons with a sodium-channel defect that occurs in a certain type of inherited epilepsy. The ion channels, he and his colleagues found, do not close tightly enough. They allow sodium ions to leak into nerve cells long after the channel should have locked shut, a study published in June in the journal Neuron found. This leakage leads to cells that are constantly on the brink of sparking, George said. This may be what allows masses of neurons to get overexcited and fire at the same time, culminating in a seizure. ``All of us can have a seizure if provoked in a severe way," George said. ``This mutation may just increase the susceptibility to seizures." George said he hoped that new models of seizure susceptibility would help lead to better medications to stem power surges. More effective medicines may help prevent childhood seizure disorders from becoming lifetime problems, he suggested. By stifling seizures early, doctors may be able to prevent changes in the brain that make future seizures more likely, George said.	S4.1 S4.2		
1166			

(17) PublicationDate: 24-02-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: computer chip-medical

HEADLINE: Preventing seizures, with a jolt, a snip or a drip

Data	Description of moves & steps	Agree	Disagree
Researchers say smaller and faster computers will soon help to predict seizures and to design tiny implantable devices to interrupt them with jolts of electricity or tiny squirts of medication directly into the brain. Until recently, scientists thought that seizures came on suddenly, with no warning. But new research has shown that seizures start with a tiny spark of activity. They take hours to build to a surge. “Seizures develop over time,” said Dr Brian Litt, an assistant professor of neurology at the University of Pennsylvania. “They don’t just strike you like lightning.” An article in The Lancet in July, reviewing studies on brain changes linked to seizures, concluded there is evidence that seizures could both change and damage the brain. “The increasing experimental and human evidence about the adverse effects of repeated seizures is a compelling argument for urgent treatment that achieves full control,” concluded Dr Sutula and his co-author Asla Pitkanen of the University of Kuopio in Finland. After researchers realised how slowly seizures developed, they decided to study recordings of brain waves, electroencephalographs, to see whether they could discern any precursors. As it turns out, scientists had a ready source of EEGs that had been gathered from epilepsy patients who went to hospitals for surgery. All of the patients scheduled for surgery to remove damaged, seizing brain tissues have their brain waves recorded for several days. When researchers looked at these recordings with standard analyses, they could not find any warning signs before seizures. Then the scientists started using methods that are derived from chaos theory, and the seizure patterns started to become clear. In December, researchers from Arizona State University showed that they could predict more than 80 percent of seizures with a computer programme, using chaos theory that analysed brain waves. On average, warnings of impending surges occurred more than an hour before the seizure, said Dr Leon Iasemidis, an associate professor of bioengineering. Right now, the process is imperfect. The computer periodically issues false alarms. Such research could eventually lead to a “cure” for seizures. “We envision a device that would automatically release a very low dose of an anti-epilepsy drug or an electrical signal that would block the seizure,” Iasemidis said. Litt and Iasemidis said “pacemakers for the brain” were a few years away. 381	E2 E1 S4.2 S3.2 S3.3 S1.1 P1 S4.2		

(18) PublicationDate: 24-02-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: baby study, IQ

HEADLINE: Hope for premature
 SUBHEADLINE: Damage to intelligence may improve over time

BYLINE: LINDSEY TANNER

Data	Description of moves & steps	Agree	Disagree
Neurological damage in very small premature babies may decrease over time, according to research that tracked children until the age of eight and found substantial mental gains.	E1		
Many youngsters once considered retarded ended up scoring in the nearly normal range on tests of verbal function and IQ, the study found.	S1.1		
Children who received early intervention such as speech therapy, those from two-parent families, and those whose mothers had high levels of education were found to experience the greatest improvement in mental function.	S1.2		
The findings are surprising because previous research has found negative long-term results for very small premature babies, and conventional thinking says that IQ doesn't change _ at least in people born at a normal weight.	S4.2		
"We were thrilled by the findings and surprised because previous reports suggested that there's an adverse outcome for very low birth-weight babies," said lead researcher Dr Laura Ment, a Yale University paediatric neurologist.			
"We found children progressively getting better between three and eight years of age," Ment said.			
The study involved 296 children born at 28 weeks and weighing just over one kilogramme on average.	S3.3		
Results appear in the Journal of the American Medical Association.	S3.1		
Children born extremely prematurely are at risk for a variety of neurological problems, ranging from cerebral palsy, mental retardation and vision trouble to more subtle learning and behaviour difficulties.	S1.2		
Ment said the study results echo recent research in animals showing that the developing brain can repair itself.	S3.2		
The youngsters were given a test of verbal abilities and three different IQ tests starting at the age of three.	S3.3		
The average IQ scores increased from 90 to 95.			
The average score on the verbal test increased from 88 points at age three to 99 points at age eight. Data from normal birth-weight children suggest average verbal scores improve by about 4.5 points over time, the authors said.	S1.2		
Nearly half of the children with verbal scores in the mental retardation range _ below 70 _ at three years of age scored at least in the borderline range _ 70 to 80 _ at age eight. And about two-thirds of the children with borderline scores on both tests at age three had scores in the normal range at age eight.			
A score of 100 would be average on both the IQ and verbal tests for a normal birth-weight eight-year-old.			
Less significant improvements were found in children born with bleeding in the brain _ a common complication in very low birth-weight babies.			
409			

(19) PublicationDate: 26-05-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: low-fat diet, low-carbohydrate diet, diet

HEADLINE: Atkins diet gains credibility

SUBHEADLINE: Studies show measures of improved heart health in low-carb dieters

BYLINE: MARY DUENWALD and DENISE GRADY

Data	Description of moves & steps	Agree	Disagree
The 31-year-old Atkins diet _ long disparaged by the medical establishment and just as fervently touted by its adherents _ has gained a measure of credibility with the publication of two studies indicating that some measures of heart health improved in people who followed low-carbohydrate diets for six months or a year.	E1		
The two studies are among the first controlled clinical trials to compare, for longer than 90 days, the kind of low-carbohydrate diets made popular by the late Dr Robert C. Atkins with the kind of low-fat diets that doctors have traditionally touted as beneficial for cardiovascular health.	S3.2		
The studies in the New England Journal of Medicine showed that although the low-carbohydrate diets were, at best, only marginally more effective for weight loss, they were associated with a lowering of triglycerides, blood fats that can contribute to atherosclerosis, the build-up of plaque in the arteries.	S1.1		
The researchers also found that their subjects had trouble sticking with the diets. Nearly half the participants did not follow their diets to the end of the studies.	P1		
One of the studies, which looked specifically at the Atkins diet, well known for allowing dieters to indulge in steak and eggs and other high fat foods, showed that people who followed the low-carbohydrate eating plan for a year also raised their levels of HDL cholesterol, which helps prevent atherosclerosis.	S1.2		
"It was very surprising," said Dr Gary Foster, leader of the study, who is clinical director of the Weight and Eating Disorders Program at the University of Pennsylvania. "I went into this skeptical about the claims that the Atkins diet was safe, and now I'm more open minded."	S4.2		
The assumption has been that a diet heavy in fat would raise LDL cholesterol and triglycerides and lower HDL cholesterol. Studies that have looked at health and eating habits in various parts of the world have found that people who eat a lot of fat, especially the saturated fat found in meat and dairy products _ tend to have higher rates of heart disease.	P2		
Researchers cautioned that further study is still needed before doctors can safely recommend low-carbohydrate diets to their patients. "All we know so far is that low-carbohydrate diets are a potentially viable option that needs more testing," Foster said.	P3		
Longer studies are needed to show whether the lipid benefits last, and also to find out whether low-carbohydrate diets carry other risks, he said. Doctors have suspected, for example, that diets heavy in protein and fat could damage the kidneys or the liver over the long term.			
Foster and his co-investigators on the current study, at Washington University in St. Louis and the University of Colorado Health Sciences Center, in Denver, have recently embarked on a five-year trial of low-carbohydrate diets, funded by the National Institutes of Health, which is designed to look into all the long-term health effects.	S3.1		

Data	Description of moves & steps	Agree	Disagree
Dr Robert O. Bonow, a cardiologist who is president of the American Heart Association, and who wrote a commentary on the studies in the same issue of the New England Journal, said he considered the new studies intriguing, but he questioned whether the improvements in blood lipids would last if subjects followed the low-carbohydrate diets over a longer time. Weight loss alone is beneficial to cardiovascular health, he said in an interview, "but over the course of time, the saturated fat content of the diet could raise your LDL, and that could be detrimental." Bonow also questioned whether it would be healthy, in the long run, for a person to limit intake of fruits, vegetables and whole grains for fear of taking in too many carbohydrates. He pointed out that many studies have demonstrated that low-fat diets combined with exercise can lead to significant and lasting weight loss over the course of many years, but said the same weight of evidence in support low-carbohydrate diets is still lacking. "There's some preliminary evidence here that this is not as bad as we once thought," Bonow said. "But until we have longer trials with more people, we must still recommend a more balanced dietary approach to weight loss." In Foster's study, half the participants were told to follow a diet in which total calories were restricted to 1200 to 1500 per day for women and 1500 to 1800 per day for men. Total fat was limited to 25 percent of calories. The others were given a copy of the best-selling Dr. Atkins' New Diet Revolution and told to follow its instructions. The Atkins diet puts no curbs on fat or total calories, but it limits carbohydrates on a sliding scale that starts out at 20 grammes a day and gradually becomes less restrictive. The Atkins dieters lost only about 7.25 kilogrammes after a year. That was greater than the average 3.6-kilo loss among the low-fat dieters, but still not a significant amount, given that the subjects started out weighing an average of 100 kilos, the study said. By the end of the year, 37 of the 63 people in the study had dropped out. In the second study, conducted at the Philadelphia Veterans Affairs Medical Center, subjects started out weighing an average of 130 kilos, and some suffered from weight-related health problems such as diabetes and hypertension. One group was instructed to limit carbohydrates to 30 grammes per day. The other group was directed to eat 500 calories a day less than would be necessary to maintain their starting weight, and to limit fat to 30 percent of calories. After six months, the low-carbohydrate dieters lost an average of 5.9 kilos, while the low-fat dieters lost only 1.8. Fifty-three of the 132 people in this study quit the programme before the six months were up. 944	S4.2 P1 P2 P3 S3.3 S1.2 S3.3 S1.2		

(20) PublicationDate: 26-05-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: baby, childcare, blood pressure

HEADLINE: Milk-based baby formula linked to blood pressure
 SUBHEADLINE: Best to feed infants on breast milk, scientists say

BYLINE: MAGGIE FOX

Data	Description of moves & steps	Agree	Disagree
Babies fed a dairy-based formula grew up to have higher blood pressure than babies who were breast-fed, British researchers reported.	E1		
Their study, published in the American Journal of Clinical Nutrition, supports several others that show substituting cow's milk for breast milk can lead to heart disease later in life.	S1.1		
The American Academy of Pediatrics says mothers should breastfeed babies for at least a year and longer if possible, while the World Health Organisation says two years should be the minimum.	S3.2		
Babies who get human milk are healthier, less likely to become obese and may have better brain function, studies have shown. Infant milk manufacturers have taken note and regularly adjust their formulas to more closely resemble human milk.			
But in the 1970s, formulas were based on dried cow's milk, and breast-feeding was out of fashion in countries such as the United States and Britain. Richard Martin of the University of Bristol and colleagues followed up on babies first studied between 1972 and 1974.			
Now in their 20s, those who were fed the most cow's milk formula were taller but had the highest blood pressure, Martin's team found. High blood pressure can lead to heart disease and stroke.	S1.2		
It could be the high sodium content of cow's milk affects the development of young babies, the researchers said. It may also simply be that cow's milk is higher in fat and calories overall _ and overfed babies, especially those that gain weight too rapidly early in life _ are prone to obesity and heart disease later in life.	S4.2		
More subtle factors could also be at work, they said.			
``Mothers in the United Kingdom who breastfeed are likely to be better educated and to encourage healthier eating habits for their children than are mothers who do not breastfeed," they wrote.	S1.2		
Fortified cow's milk is an important source of calcium and vitamin D _ key to preventing rickets and osteoporosis _ but a second study in the same journal proposed that orange juice could substitute.			
Dr Michael Holick and colleagues at Boston University School of Medicine found that adults who drank orange juice fortified with vitamin D absorbed it just as well as from milk.	M1		
Orange juice is already available fortified with calcium.			
369			

(21) PublicationDate: 26-05-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: stem cells

HEADLINE: New stem cell production method still controversial
 SUBHEADLINE: Scientists trick eggs into embryos without sperm

BYLINE: PAUL ELIAS

Data	Description of moves & steps	Agree	Disagree
Snails, fleas and on very rare occasion sharks have been known to give birth in the wild without the aid of sperm.	S2		
It's called parthenogenesis _ Greek for ``virgin birth". Now a few scientists are trying to take males out of the human equation as well, not to create babies but to develop stem cells for medical research.	E1		
The hope is to trick human eggs into believing they've been fertilised.	S3.2		
The ultimate goal is to harvest human embryonic stem cells without fertilised eggs or cloned embryos, the two most popular and controversial methods of doing such research.			
Some researchers view parthenogenesis as a defence against complaints that their work is unethical.	S4.2		
``This eliminates the cloning controversy," said Dr Robert Lanza of Worcester, Massachusetts-based Advanced Cell Technology. Lanza said his company has succeeded in growing days-old embryos through parthenogenesis.			
Human egg cells can be duped with chemicals and electric shocks to begin growing like embryos, which are coveted as stem cell sources. Researchers have harvested stem cells from unfertilised mouse and monkey eggs that were coaxed to grow through parthenogenesis.	S3.3		
Lanza and like-minded scientists insist the technology can't produce babies. No mammal has ever been known to give birth through parthenogenesis, and mouse, monkey and human embryos created this way haven't survived for more than several days.	S4.2		
Stem cell opponents, though, use the same reasoning to argue that parthenogenesis may be even more appalling to them than cloning.	P3		
They suggest that the embryos died quickly because of genetic defects inherent in the process.			
``These could be very severely damaged human organisms," said Richard Doerflinger of the US Conference of Catholic Bishops. ``This is a very bizarre technique."			
``We are interested in any new way to advance stem cell research without destroying human life," Doerflinger added. ``But they haven't proved parthenogenesis is a solution."			

Data	Description of moves & steps	Agree	Disagree
Experts in the field stress that much more research is needed to ensure that stem cells produced this way are safe and effective for use in human therapies. Still, they see promise with parthenogenesis. In the current issue of the scientific journal Stem Cells, researchers from Gaithersburg, Maryland-based Stemron Corp reported success in growing human embryos through parthenogenesis. Embryonic stem cells hold great promise, and researchers have been searching for nearly 20 years to find a bountiful source for them. Stem cells can grow into virtually any cell in the body, and researchers believe they could be used to grow new heart, liver, brain or pancreas cells which then could be used to repair ailing organs. To make these new organ cells compatible with a patient, researchers say they would have to clone an embryo using the nucleus from a cell of the patient. The new stem cells would be removed and then grown into the target cells. ``The beneficial aspects of parthenogenesis is that it doesn't involve fertilised eggs," said Jerry Hall, an embryologist at the Institute for Reproductive Medicine and Genetic Testing in Los Angeles who calls the creation a ``parthenote". ``By definition they are not embryos," Hall said.	S4.1 S3.2		
503			

(22) PublicationDate: 27-01-2003
PAGE: 05

PUBLICATION: BANGKOK POST
KEYWORD: Chinese medicine, Chinese herbal medicine

HEADLINE: East meets West

SUBHEADLINE: Researchers use occidental scientific methods to see how ancient remedies of the Orient really work

BYLINE: MARGARET WONG

Data	Description of moves & steps	Agree	Disagree
Lab rats get stuck consuming everything from morphine to anthrax in the name of medical progress, but some in Hong Kong may be having it a bit easier as they drink a brown liquid made from a yellow-rooted Chinese herb.	S2		
Tradition has it that the yellow root, known as huangqi, can control swelling and promote regeneration of skin, so researchers at the Chinese University tried it out on rats with diabetic foot ulcers _ before testing it on patients in local hospitals.	E1		
The tests are part of a growing trend in China, where herbal medicines have been used for centuries with little recognition from the West.	S3.2		
Practitioners and drugmakers are now hoping to win global respect for their products _ and potentially big profits through the same sorts of rigorous testing required in the West for medications, including laboratory, animal and human experiments.			
Researchers have used mice to test so-called Bak Foong pills, made of ingredients that include ginseng, deer antlers and more than 20 herbs.	S3.3		
The pills are popular among middle-aged and menopausal Chinese women who believe Bak Foong pills can enhance the immune system, improve digestion, regulate levels of ovarian hormones and reduce the risk of heart problems.	S2		
Initial tests showed no effect on young mice. Then the scientists figured out that healthy lab animals didn't make much of a measuring stick.	S1.1		
They tried again with weak, older mice and found that the diminished lymphatic cells _ a key component of the body's immune system _ returned to a level similar to that in the healthy animals, said physiology professor Chan Hsiao-chang.			
In tests that start with animals and, if promising, progress to people, researchers here are working to decode many traditional formulas in ``scientific terms and international language," Chan said.	S4.2		
They have a long way to go to get their herbal remedies approved as drugs by Western authorities such as the US Food and Drug Administration. The prospects for success are not certain, admit herbal makers and Chinese medicine practitioners, who, however, vow to fight the uphill battle.	P3		
Western physicians and pharmacists have long been sceptical about whether herbal remedies work at all, and if so, whether they can be scientifically verified as safe and effective.			
The FDA has never approved any Chinese _ or Western _ herbal drugs, said Dr Shaw Chen, an associate director at the FDA's Center for Drug Evaluation and Research in Rockville, Maryland.			
About 40 clinical trials are known to be under way in Hong Kong, mainland China, Taiwan and elsewhere as makers of the herbal remedies race to become first to succeed, Chen said in a telephone interview.	S2		
The experiments on patients are being performed with herbal remedies reputed to treat everything from viruses to cancer and skin disease, he said.	S3.3		

Data	Description of moves & steps	Agree	Disagree
Chen wouldn't say whether any of the remedies could get FDA approval for drug registration, though he noted that herbal formulas, which are aimed at curing the body as a whole rather than a specific illness, can't easily match up with the standards set for precise, single-compound Western drugs made from chemicals.	S4.2		
“We have not seen anything close,” Chen said, adding that Western pharmaceutical companies often spend huge amounts of money on new drugs to get them approved for the market, in a process that takes years. In previous cases involving Chinese herbal remedies, the FDA has cited problems with companies that produce dietary supplements without detecting the presence of contaminants or even listing all the ingredients on the labels. In 2000, the FDA stopped imports of the Chinese herb family Aristolochia after reports of kidney failure among users in Britain and Belgium. The Chinese drugs are backed by “mostly anecdotal experience and don't have good quality data to meet modern standards,” Chen said.	P3		
Those in the Chinese drug industry are hoping to change that. They say they're improving their methods and achieving measured success by raising their manufacturing standards.	S4.2		
At the 123-year-old drugmaker Eu Yan Sang, salesman Li Chiu-ming recalls that when he started out 20 years ago, he sifted through herbs by hand, identifying them by shape, colour, texture and smell and then heating them over firewood or burning charcoals before letting them dry out in bamboo sieves.	S1.2		
In 2001, the Singapore-listed company invested \$HK20 million (110 million baht) in a high-tech, dust-free plant in Hong Kong that executives say is comparable to those operated by Western drug-makers.	S4.2		
“We used to work like a small, traditional family business,” Li said. “But now we are going high-tech and global.”			
A colleague, Poon Hop, wore a surgical cap and lab coat as he greeted a reporter inside a sterile room with tightly controlled temperature and humidity where he chopped Chinese roots on a stainless steel surface.	S1.2		
“I am getting used to the new requirements,” Poon said, beaming with pride.	S4.2		
The Hong Kong plant has been rewarded with a certificate for Good Manufacturing Practice by Australia's Therapeutic Goods Administration, which confirms its products are manufactured in conditions that are clean and free of contaminants.			
That allows the company to export some products to the US as dietary supplements, and it hopes soon to enter the Taiwanese and European Union markets. The manufacturing-standards certification would also be a necessary step, albeit a small one, toward getting any of the products approved as drugs.			
882			

(23) PublicationDate: 28-04-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: cardiomyopathy, childcare

HEADLINE: Babies can develop dangerous heart condition
 SUBHEADLINE: Paediatricians have been giving wrong advice for years, says study

BYLINE: MAGGIE FOX

Data	Description of moves & steps	Agree	Disagree
Babies under a year old are especially prone to develop a deadly heart condition called cardiomyopathy and the condition, while rare, may occur more often than doctors believed, researchers said.	E1		
They said paediatricians have been given the wrong advice for years that the heart condition was most likely to develop in late childhood.	E2		
But Dr Steven Lipshultz of the University of Rochester, said he and colleagues found the opposite.	E1		
"A paediatrician who is concerned about a child potentially having a heart problem may consult some of today's most popular cardiology textbooks, and he or she will read that it is unusual for a young child to get cardiomyopathy," Lipshultz said in a statement.	S3.2		
"This study shows that children are about 10 times more likely to develop cardiomyopathy during their first year of life than ages two to 18 combined," he added. "This study shows that expert opinion from around the world is not a viable substitute for examining the data."	S1.1		
Cardiomyopathy can be caused by viruses, certain diseases, or by a birth defect. It is marked by damage to the ventricles, the lower chambers of the heart.	S2		
"Almost 40 percent of children with symptoms of cardiomyopathy ultimately die of the condition or require cardiac transplantation, and this percentage has remained unaltered by decades of medical research," Dr Arnold Strauss of Vanderbilt University in Nashville and Dr James Lock of Harvard Medical School wrote in a commentary on the studies, published in the New England Journal of Medicine.	S4.1		
Lipshultz said symptoms are often vague, so a paediatrician who sees an infant who is unhappy, not feeding well, and is breathing hard may not suspect cardiomyopathy.	S1.2		
"A child like this could die of cardiomyopathy," Lipshultz said. "If paediatricians don't know to look for cardiomyopathy, they won't find out the child has it."			
Lipshultz's team and a separate group in Australia both found the incidence of cardiomyopathy may have been underestimated by as much as 45 percent. Both found that about one in every 100,000 children develops the condition.			
If doctors know to look for cardiomyopathy, there are treatments that can save a child's life. Lipshultz has found that a blood pressure drug called enalapril can help.			
His team also found the incidence of cardiomyopathy was higher among boys than girls, while black and Hispanic children were more prone to develop the conditions than whites.			
"This leads us to believe that genetics may be an important reason children develop cardiomyopathy," he added. "The regional differences are important because that suggests there may be environmental factors at play in those regions."			
428			

(24) PublicationDate: 30-06-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: Alzheimer's disease, dementia

HEADLINE: Stay on the ball

SUBHEADLINE: Practising mental fitness wards off dementia, study says

BYLINE: JEFF DONN

Data	Description of moves & steps	Agree	Disagree
An absorbing book or a challenging crossword puzzle may keep your mind more than busy. It may keep it healthy, too, according to a 21-year study of mental breakdown in old age.	E1		
The study adds to the evidence that stimulating the mind can ward off Alzheimer's disease and other dementia, much as physical exercise can keep the body fit.	S1.1		
The study was led by Albert Einstein College of Medicine in New York City and published in the New England Journal of Medicine. It was funded by the National Institute on Ageing.	S3.1		
Researchers are eager to establish whether keeping mentally active can help guard against dementia. That would provide a simple, drug-free way of reducing the risk of the widespread, debilitating ailment. About 10 percent of people develop dementia between ages 60 and 70.	S3.2		
"I think the hypothesis is plausible enough that I spent several years of my life trying to figure out what the mechanism is, and I would advise our government to spend millions of dollars trying to figure it out," said Dr David Bennett, a neurologist at Rush-Presbyterian-St. Luke's Hospital in Chicago. He has done similar research.	S4.2		
In the Einstein College study of 469 elderly people, those in the top third in mental activity had a 63 percent lower risk of dementia than the bottom third. Taking part in a single activity one day a week reduced the risk by 7 percent.	S1.2		
The use-it-or-lose-it notion is not a new idea. Other researchers have discovered evidence that mental activity may guard against dementia.	S4.1		
But it is hard to prove, since early dementia without obvious symptoms may cause people to slack off their hobbies. If this is so, dementia affects hobbies _ and maybe not the reverse.	P3		
The researchers tried to minimise that possibility by considering only those who were dementia-free for seven years after joining the study. They also tried to eliminate the potential role of education and intelligence in guarding against dementia.	S3.2		
This study also took physical exercise into account. Nearly all physical activities, including stair climbing and group exercise, appeared to offer no protection against dementia.	S1.2		
The only exception was frequent dancing, perhaps because dance music engages the dancer's mind, suggested lead researcher Joe Verghese, a neurologist at Einstein College.			
It is not clear what physiological mechanism might confer the protection.	P1		
But researchers say evidence is accumulating that the brain is much more easily moulded than scientists once thought. Mentally engaging hobbies might lay down new neural pathways, one theory holds.	S4.2		
"The cerebral cortex and hippocampus, which are critical to these activities, are remarkably plastic, and they rewire themselves based upon their use," said Dr Joseph Coyle, a Harvard Medical School psychiatrist who wrote an accompanying commentary.			
Even if keeping the mind busy offers no protection against dementia, Verghese said doctors can hardly go wrong in recommending it: "If nothing else, it improves the quality of life."	M1		

(25) PublicationDate: 31-03-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: cervical cancer

HEADLINE: Cheap procedure may save women's lives
 SUBHEADLINE: Thai-US study set to aid prevention of cervical cancer

BYLINE: DONALD MCNEIL JR

Data	Description of moves & steps	Agree	Disagree
In African hospitals, says Dr Paul Blumenthal of the Johns Hopkins School of Medicine, the cervical cancer wards can be found by smell alone. Women come in when their cancers are bleeding uncontrollably or have eaten into their urethras or intestines. By then, even major surgery will not cure them. They come in to die.	S2		
But now he and other public health doctors are testing a simple one-visit procedure that could save many of the thousands of women, most in the Third World, who die each year of the disease.	E1		
The procedure involves washing the cervix with vinegar, peering at it with a flashlight and freezing any white spots with liquid carbon dioxide. The white spots may be precancerous lesions. Destroying them kills cervical cancer virtually at birth.	S3.3		
The procedure is particularly promising, the doctors say, because it can be done with relatively simple equipment in one visit.	S4.2		
Doctors from Johns Hopkins and a prominent Thai hospital tested the procedure in a study of 6,000 women in rural Thailand. The study, underwritten by the Bill and Melinda Gates Foundation, is described in a recent issue of The Lancet, a British medical journal.	S3.1		
Of the 707 women in the study who had visible white spots, those who received cryogenic treatment on the spot and who returned for a one-year follow-up visit, 94 percent had no lesions a year later. None had a complication requiring hospitalisation, 98 percent found the pain only mild or moderate, and over 95 percent said they were satisfied with the procedure.	S1.2		
A parallel study of 4,000 patients in Ghana is under way and its results so far are "very reassuring," Blumenthal said.	S4.1		
"My hat's off to him," said Dr Groesbeck Parham, a professor of gynaecological oncology at the University of Alabama at Birmingham who has treated women with cervical cancer in South Africa, Sudan and Zambia and runs a group called Friends of Africa that provides such care. "His method is cheap, it's easy to learn and it's effective, and there were no deaths and no serious bleeding problems in his study."	S4.2		
Cervical cancer, once the leading cancer killer among American women, is now, because of Pap smears, a distant seventh, killing 4,100 a year.			
But 80 percent of the world's cervical cancer cases are in poor nations in Africa, Asia and South America. Each year about 470,000 new cases are reported, with about 225,000 deaths.	S2		
It is a killer in poor countries for a simple reason: the normal Western procedure for detecting cervical cancer is far too cumbersome and expensive for third world health care systems. In the United States, a woman normally has a Pap smear, in which cells are scraped from the cervix, put on a slide, fixed and stained with chemicals and sent to a pathology lab, which mails the results to her doctor.			
If they are abnormal, she sees her doctor to be examined with a colposcope, which lights and magnifies the cervix; a small piece of tissue may be snipped off and sent to a lab for biopsy. If it is cancerous, she returns for surgery.			

Data	Description of moves & steps	Agree	Disagree
In poor countries, anything can go wrong with that chain: Expensive imported chemicals run out, lab pathologists get overwhelmed, \$3,000 (126,000 baht) colposcopes break, and so on. Dr Pisake Lumbiganon, a professor of gynaecology at Khon Kaen University, said two decades of doing Pap smears in Thailand had not cut mortality from cervical cancer. Even when rural doctors bothered to do them, he said, it took up to four months to get results from a Bangkok lab. In a small study he did of women whose results were positive, only about half received further treatment. The rest, he said, "didn't get the result because of the mail problem, got the results but didn't understand the message, or understood the message but didn't have the money to come." Health care systems are similarly broken all over the world, other doctors said. "Many patients simply don't have addresses," said Dr Robert Bristow, a gynaecological oncologist who has operated on women from Nepal to Ghana. The technique that Blumenthal and others are testing diagnoses and treats lesions on the same visit. He even adapted it to use carbon dioxide as a freezing agent instead of the nitrous oxide used in the West. Carbon dioxide is much cheaper, gets almost as cold, and is readily available from any soda bottling plant, he said. Nearly every country in the world has a Coke or Pepsi bottling operation. Almost all cervical cancers are caused by human papilloma viruses, which are sexually transmitted. They first create lesions on the cervix that may take 10 years or more to develop into cancer. When the cervix is washed with five percent acetic acid common vinegar those lesions turn white and can be seen by flashlight or even by daylight. "All you need is a room with a window," Bristow said. Parham recently trained traditional healers near Durban, South Africa, to perform the procedure. The only medical equipment needed was a \$10 (420 baht) speculum; he bought vinegar and cotton balls on the drive to the village. Parham trained them to refer women with lesions to physicians, but Blumenthal's clinics in Thailand and Ghana train nurses to destroy lesions on the spot by touching them with a metal probe frozen by a jet of carbon dioxide. There is a possibility of "overtreatment" with the technique. Without microscopic examinations of a lesion's cells, doctors said, it is impossible to know if one is benign a blocked gland or simple inflammation. But overtreatment has no health risks and adds little to the overall cost of using the procedure. Given the broken-down health systems of poor countries, Blumenthal said, "we aim for the best intervention, not the best diagnosis." 964	S3.2 S3.3 P3 S4.2		

(26) PublicationDate: 31-03-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: heart disease

HEADLINE: Slow but steady

SUBHEADLINE: Study shows easier workouts may still help older exercisers' hearts

BYLINE: IRA DREYFUSS

Data	Description of moves & steps	Agree	Disagree
For older exercisers, effort counts. At least that's what a large Harvard study of heart disease in older men showed.	E1		
It found that those who thought their workouts were hard had a lower risk of coronary heart disease, even though the amount of energy they burned was below minimum federal guidelines.	S1.1		
"Are they getting any benefit? The bottom line is yes, they are," said researcher I-Min Lee of the Harvard School of Public Health.	S4.2		
Even though the study involved only men, Lee said the study could be applied to women as well.	P1 S1.2		
The study suggests that older people may be able to do less exercise and get heart health benefits _ provided they feel they are working hard.			
The findings were published in the American Heart Association journal Circulation.	S3.1		
Researchers looked at 7,337 men in the long-running Harvard Alumni Health study. The scientists examined questionnaires from 1988 to 1995 from men who had an average age of 66.	S3.3		
In the study period, 551 developed coronary heart disease, a narrowing of the small blood vessels that feed the heart.	S1.2		
In the questionnaires, the alumni listed their physical activities. The researchers then estimated how much energy the men probably used in doing them. Those results were tallied in METs _ multiples of resting metabolic rate, or the amount of energy a person uses just to sit quietly.	S3.3		
Sitting quietly is 1 MET; walking briskly would be about 4 METs, and jogging 1.5 kilometres in 12 minutes would be 6 METs.			
The men rated the difficulty levels of the exercise on a 1 to 10 scale with 10 being the most difficult.			
Researchers focused on the men whose workouts were at or below 3 METs, because the 3-to-6 MET range is the minimum energy expenditure that federal exercise recommendations consider healthful, Lee said.			
Looking at this low-MET group, the scientists compared men whose activities felt hard to those who felt their activities were easy.			
The ones who rated their intensity at 5 on the 10-point scale had a 31 percent lower rate of coronary heart disease than did men who rated their intensity at .5.	S1.2		

Data	Description of moves & steps	Agree	Disagree
“The ones who felt they were exercising hard did better than ones who felt nothing,” said Lee. The results make sense because the cardiovascular system is sensitive to increased effort, said scientist William Haskell of Stanford University, who was not part of the research team. If a person's fitness level is low at the start, then a strong effort can create a training effect, he said. Training that feels hard can be enough to increase the heart's ability to pump more blood with each beat, and also could reduce cholesterol levels, he said.	S4.2		
Lee said she did the study to see if people who do less than the METs targeted in the recommendations would still get some benefit.	S3.2		
However, neither she nor Haskell believe people should try to get by on less. For one thing, a higher metabolic rate means more calories are burned _ and weight can be lost. But current MET standards don't adequately account for the slowing of metabolism that comes with age, Lee said. The guidelines are based on the bodies of younger adults who have higher metabolic rates that could run at 3 to 6 METs in moderate exercise, she said.	S4.2		
Lee said older people would feel they are working just as hard at lower METs. Although the science behind the exercise recommendations is based in part on METs, the guidelines themselves are written in language based on ratings of perceived exertion. Because people can't keep track of their METs, the guidelines call for at least moderate exercise for a minimum of 30 minutes on most days of the week. Lee would not change the wording. The recommendations are easy to understand and widely applicable _ and even older exercisers who won't reach 3 to 6 METs still could find their efforts rewarded, she said.	M1		
651			

(27) PublicationDate: 06-01-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: health care, fat, heart disease

HEADLINE: Fresh take on dietary fat, Mediterranean-style
 SUBHEADLINE: It's not total fat but rather the kinds of fats consumed that have the main influence on coronary risk

BYLINE: JANE BRODY

Data	Description of moves & steps	Agree	Disagree
For several decades, experts have promoted a low-fat, low-cholesterol diet as most effective in warding off heart disease.	E2		
But in recent years, new evidence has brought this advice into question, and suggested modifications will probably be easier to follow and more likely to protect against the disease that is the main cause of disability and death in Western countries.	E1		
A major problem with the old advice was that it seemed to give people free rein to overindulge in simple and refined carbohydrates _ foods rich in sugars and white flour, which can produce unhealthy levels of blood lipids and increase the risk of becoming overweight and diabetic, raising the coronary risk.	S3.2		
The most significant change in thinking _ one that is still vigorously debated _ is that low-fat is not the answer or at least not the best answer. But before you say "I told you so" and go back to eating all the steak, butter and eggs you want, a careful analysis of the evidence clearly shows that it is not a high-fat, low-carbohydrate diet that is protective.			
Rather, it is a diet like the one consumed by heart-healthy people along the Mediterranean: rich in vegetables and fruits, whole grains, nuts, unsaturated vegetable oils and protein derived from fish, beans and chicken, not red meat.	S1.2		
"Compelling" evidence for this view was thoroughly reviewed in The Journal of the American Medical Association recently by Dr Frank Hu and Dr Walter Willett, nutrition and epidemiology experts at the Harvard School of Public Health, who have followed tens of thousands of Americans for decades to uncover relationships between diet, habits and health.	S3.1		
The original heart-saving advice was geared to lowering blood levels of cholesterol and especially low-density lipoprotein, or LDL, cholesterol, a waxy alcohol that in large amounts in blood serum can gum up the arteries and set the stage for life-threatening clots.	S3.2		
But, the scientists wrote, "the original hypothesis was overly simplistic because the effects of diet on coronary heart disease can be mediated through multiple biological pathways other than serum total cholesterol or low-density lipoprotein cholesterol."			
In other words, blood levels of cholesterol, or even LDL-cholesterol, do not constitute the whole story of coronary risk, a fact widely known but until recently not fully taken into account when devising dietary advice for the public.			

Data	Description of moves & steps	Agree	Disagree
Other important factors include blood levels of triglycerides, artery-protective high-density lipoprotein (HDL) cholesterol, an amino acid called homocysteine, cardiac rhythms, clotting tendency of blood, flexibility of artery walls and levels of blood pressure and blood sugar. Each, in turn, is influenced by dietary factors beyond total fat and cholesterol. What the studies show The Harvard researchers reviewed a plethora of evidence _ studies conducted under carefully controlled conditions in metabolic wards, studies of many thousands of free-living people followed for many years, studies comparing the diets of people who suffered heart attacks with the diets of comparable people free of heart disease, and studies involving people with heart disease and those free of it, randomly assigned to different diets to see which was most protective. Here is what they found: It is not total fat but rather the kinds of fats consumed that have the main influence on coronary risk. Saturated fats _ those that are hard at room temperature like the fats in red meats, cheese, butter and, to a lesser extent, poultry _ raise blood levels of harmful cholesterol and are not to be recommended as a steady diet. Even more hazardous are the so-called trans fats that form when vegetable oils are hardened to make most margarines and the shortenings that are widely used in processed and fast foods. Check the ingredients on food labels and chances are you will find that most processed foods contain "partially hydrogenated vegetable oil", which nearly always means trans fats are present. Look for margarines free of trans fats. In metabolic studies, even small amounts of trans fats in the diet were found to raise the harmful cholesterol and lower the protective type. Trans fats also raise blood levels of triglycerides and another harmful substance, lipoprotein-a. In addition, the trans fats may impair arterial flexibility and promote resistance to insulin, which in turn increases the risk of Type 2 diabetes, a risk factor for heart disease. Substituting refined carbohydrates for fats is not the answer, Hu and Willett wrote, because such a change raises triglyceride levels and lowers both harmful and helpful cholesterol, resulting in no reduction in coronary risk. Particularly troublesome, especially for people who are already insulin resistant, are carbohydrate-rich foods with high glycemic loads: lots of quickly digested sugars or starches, like sweets, white bread and potatoes. Pasta, oatmeal and unrefined grains, on the other hand, are digested slowly and therefore have a low glycemic load and are considered heart healthy.	S3.3 S1.2 S4.1 S1.2		

Data	Description of moves & steps	Agree	Disagree
When oils rich in polyunsaturates and monounsaturates are substituted for saturated fats and hardened oils, harmful cholesterol levels fall and beneficial cholesterol either rises or stays the same. When polyunsaturates are substituted for saturated fats, insulin sensitivity may improve and the risk of diabetes may fall, the researchers noted. Foods rich in monounsaturates include olive, canola, nut and avocado oils and the foods they come from (especially walnuts); oils rich in polyunsaturates include safflower, soya bean, corn and mustard. But the most heart-healthy of fats are likely to be the omega-3 fatty acids found in fish and some plants, like flax seed and purslane, walnuts and in canola and soya bean oils and fish-oil capsules. Just two fish meals a week can significantly reduce the chance of having a heart attack. Potential benefits of omega-3 fatty acids include prevention of abnormal heart rhythms, decreased risk of clots, greater arterial flexibility and lower triglyceride levels. Also protective are whole grains, especially those rich in soluble fibre like oats and barley, and folate, a B vitamin found in dark-green leafy vegetables. It is also added to flour now. Continuing studies of more than 120,000 health professionals showed significant cardiac benefits of a diet rich in fruit and vegetables, especially green leafy vegetables and fruits with vitamin C. As you can see, there is no one food to eat or eliminate that will by itself protect the heart. Rather, it is an overall dietary pattern, the researchers noted. This "prudent" pattern is characterised by "higher intakes of fruit, vegetables, legumes, whole grains, poultry and fish". A typical Western pattern "characterised by higher intakes of red and processed meats, sweets and desserts, potatoes, French fries and refined grains" is associated with a higher cardiac risk. It is not enough just to eat right. In addition to a healthy diet, protecting one's heart should also include maintaining a healthy weight, exercising regularly for half an hour or more daily, consuming a moderate amount of alcohol and not smoking. Together, such measures could prevent 74 percent of coronary events, the Harvard researchers concluded. 1144	S4.1 M1 M2		

(28) PublicationDate: 07-04-2003 PUBLICATION: BANGKOK POST
 PAGE: 05 KEYWORD: Alzheimer's disease

HEADLINE: Drug slows Alzheimer's

SUBHEADLINE: Patients taking combination medication show marked improvements, says study

BYLINE: STEPHANIE NANO

Data	Description of moves & steps	Agree	Disagree
A drug long used in Germany slows down memory loss and physical decline in advanced Alzheimer's patients, according to a study of what could be the first effective treatment for late stages of the mind-robbing ailment.	E1		
There is no cure or known prevention for Alzheimer's, and the only medications are approved for earlier stages of the disease.	S2		
But a six-month test of the drug memantine in patients with moderate-to-severe Alzheimer's showed it slowed deterioration from the disease, researchers report in the New England Journal of Medicine.	S1.1		
"It's a breath of fresh air for caregivers and for patients," said Dr Barry Reisberg of New York University School of Medicine, who led the study.	S4.2		
A second study of memantine used with one of the current Alzheimer's drugs suggests the combination actually improves memory and thinking skills in advanced patients.	S4.1		
That study was presented Thursday at the American Academy of Neurology's annual meeting.			
Memantine was approved for advanced Alzheimer's last year in Europe, where it has been available in Germany for two decades to treat dementia. Alzheimer's is a common form of dementia.	S2		
Reisberg's study was paid for by the German drug maker Merz Pharmaceuticals, whose employees were among the researchers. The second study was funded by Forest Laboratories Inc, which has US marketing rights.	S3.1		
Memantine works differently than approved Alzheimer's drugs by blocking excess amounts of a brain chemical, glutamate, which can lead to nerve cell damage. The most commonly used Alzheimer's drugs _ Aricept, Exelon and Reminyl _ prevent the breakdown of another brain chemical.	S1.2		
Doctors usually keep Alzheimer's patients on those drugs as they move into later stages of the disease because they are thought to do some good, said Bill Thies, medical-science director of the Alzheimer's Association.	S4.2		
Memantine would give them a welcome option, he said.			
"It does open the possibility that you can use the two together in a way that actually adds up to even greater benefit," Thies said.			

Data	Description of moves & steps	Agree	Disagree
In moderate to severe stages, Alzheimer's patients begin having trouble taking care of themselves and have problems with memory and thinking. In the study by Reisberg's team, 252 patients were given either memantine or a dummy pill for six months and a battery of tests to measure their mental and physical abilities. Both groups saw declines, but the group taking memantine declined by about half as much, Reisberg said. The findings also showed the burden on caregivers was reduced in the memantine group. Side effects were mostly mild, the researchers said. In the combination study, the 403 patients were already taking one of the Alzheimer's drugs, Aricept. They were given either memantine or a dummy pill for six months. The patients who got memantine showed a significant improvement in their memory and thinking, according to one of the researchers, Dr Martin Farlow of Indiana University School of Medicine. "The best of all worlds is if you can treat an illness with one medication but often the real world is you find drugs that work in different ways and you are able to gain additional benefits in patients," said Farlow. "And I think that's what this study says." Harriette Bayse said there was a dramatic improvement in her former husband, William A. Bayse, after he began taking memantine in the combination study last year. She helps care for Bayse, 65, a retired FBI assistant director, who lives at a retirement community in Mount Pleasant, South Carolina. "He was improving and improving, and by the summer ... he was just really like his old self," she said. She said he was talkative, could recall nicknames and his outlook was good. He continued taking memantine after the study, and the improvement lasted until recent seizures unrelated to the drug, she said. "For my kids to be able to have the summer with him, Thanksgiving and Christmas, it was such a blessing," Bayse said. 642	S3.3 S1.2 S4.1 S4.2		

(29) PublicationDate: 09-06-2003 PUBLICATION: BANGKOK POST
PAGE: O5

HEADLINE: Chemotherapy may help lung cancer

Data	Description of moves & steps	Agree	Disagree
A large international study has shown for the first time that offering chemotherapy after surgery can modestly improve the survival of people with early-stage lung cancer.	E1		
Even though the benefit is small, doctors say the discovery is important, both because lung cancer is such a grim diagnosis and because it is so common. It is the No. 1 cancer killer, diagnosed in 1.2 million people around the world each year, and 85 percent of victims die of the disease.	P1 S4.2		
Chemotherapy after surgery is standard for treatment of breast and colon cancer. But until now, there has been no convincing evidence that it changes the course of lung cancer. Doctors do offer chemotherapy to patients, but the treatment is typically intended to ease symptoms rather than delay death.	S2		
The latest study suggests lung cancer patients do have another treatment option, if their tumours are found early and can be removed with surgery. A follow-up round of chemotherapy improves their survival by several months.	S4.2		
Dr Thierry Le Chevalier, who directed the study, said the results mean chemotherapy should be a routine option for patients who have surgery for early lung cancer.			
"The benefit reported could prevent annually around 7,000 deaths worldwide," he said at a meeting in Chicago of the American Society of Clinical Oncology.			
Several doctors agreed that the results will have a major impact, although some questioned whether the change will be immediately embraced by all specialists.	P3		
The study was conducted on patients with non-small-cell lung cancer, by far the most common kind, that was confined to the lungs or had spread only to nearby lymph nodes. About one-third of such patients are considered good candidates for surgery. Many patients cannot have surgery because they are not well enough to tolerate the operation, which typically takes out 20 percent of the lung, or the disease has already spread to the lymph nodes in the neck and opposite side of the chest.	S3.3		
Doctors enrolled 1,867 patients at 148 hospitals in 33 countries. They were randomly assigned to get an operation alone or surgery plus chemotherapy. The treatment regimens included the drug cisplatin plus a variety of other standard chemotherapy medicines.			
After five years, 45 percent of patients getting chemotherapy were still alive, compared with 40 percent of those getting only surgery. Average survival was 51 months for the chemotherapy patients and 44 months for the comparison group.	S1.2		
Cisplatin can carry serious side effects, including a drop in white blood cells that leaves patients open to infection.	P1		
Another study presented at the meeting raises the possibility that people taking cholesterol-lowering drugs to keep their hearts working smoothly may also lower their risk of cancer. Millions already take the drugs, called statins, and the latest work suggests they may be getting an unexpected benefit. _ AP	S4.1		
463			

Appendix B

Word Lists with the Frequency of Occurrence in at least 0.2 Percent

Move1

N	Word	Freq.	%
1	THE	39	3.57
2	A	38	3.48
3	OF	37	3.39
4	TO	30	2.75
5	AND	23	2.11
6	THAT	23	2.11
7	IN	22	2.01
8	FOR	12	1.10
9	STUDY	11	1.01
10	WITH	11	1.01
11	MAY	10	0.92
12	BUT	9	0.82
13	IT	9	0.82
14	ARE	8	0.73
15	AS	8	0.73
16	HEART	8	0.73
17	MORE	8	0.73
18	OR	8	0.73
19	HAS	7	0.64
20	THAN	7	0.64
21	ACCORDING	6	0.55
22	CAN	6	0.55
23	DIET	6	0.55
24	DISEASE	6	0.55
25	FOUND	6	0.55
26	HAVE	6	0.55
27	IS	6	0.55
28	PATIENTS	6	0.55
29	WHO	6	0.55
30	YEAR	6	0.55
31	#	5	0.46
32	AN	5	0.46
33	BABIES	5	0.46
34	HELP	5	0.46
35	LOW	5	0.46
36	PEOPLE	5	0.46
37	SCIENTISTS	5	0.46
38	SEIZURES	5	0.46
39	THEIR	5	0.46
40	AT	4	0.37
41	BRAIN	4	0.37
42	BY	4	0.37
43	CANCER	4	0.37
44	CAUSE	4	0.37
45	DOCTORS	4	0.37
46	LIKELY	4	0.37
47	MANY	4	0.37
48	NEW	4	0.37
49	NOW	4	0.37
50	OFTEN	4	0.37

51	OLD	4	0.37
52	ON	4	0.37
53	ONE	4	0.37
54	OTHER	4	0.37
55	RARE	4	0.37
56	RESEARCH	4	0.37
57	RESEARCHERS	4	0.37
58	SAID	4	0.37
59	THEY	4	0.37
60	WHAT	4	0.37
61	BE	3	0.27
62	CASES	3	0.27
63	CHEMOTHERAPY	3	0.27
64	CHILDREN	3	0.27
65	CHOLESTEROL	3	0.27
66	CONDITION	3	0.27
67	COULD	3	0.27
68	DEVELOP	3	0.27
69	HEALTH	3	0.27
70	HIGH	3	0.27
71	INTO	3	0.27
72	LONG	3	0.27
73	LOSS	3	0.27
74	MEDICAL	3	0.27
75	MOST	3	0.27
76	SOME	3	0.27
77	TAKE	3	0.27
78	THEM	3	0.27
79	THIS	3	0.27
80	TINY	3	0.27
81	TWO	3	0.27
82	WEIGHT	3	0.27
83	WHILE	3	0.27
84	WILL	3	0.27
85	YEARS	3	0.27

Move2 submove1

N	Word	Freq.	%
1	THE	293	5.39
2	OF	186	3.42
3	IN	137	2.52
4	AND	134	2.47
5	A	124	2.28
6	#	120	2.21
7	TO	112	2.06
8	THAT	74	1.36
9	ARE	45	0.83
10	FOR	44	0.81
11	IS	43	0.79
12	WITH	41	0.75
13	PERCENT	36	0.66
14	ON	35	0.64
15	OR	35	0.64
16	THAN	35	0.64
17	AS	34	0.63
18	WERE	33	0.61
19	RISK	32	0.59
20	AT	31	0.57
21	MORE	31	0.57
22	SAID	31	0.57
23	WHO	31	0.57
24	THEY	29	0.53
25	WEIGHT	29	0.53
26	CANCER	28	0.52
27	FROM	27	0.50
28	THOSE	27	0.50
29	BY	26	0.48
30	BE	25	0.46
31	IT	25	0.46
32	NOT	25	0.46
33	STUDY	25	0.46
34	THEIR	25	0.46
35	FOUND	24	0.44
36	PATIENTS	24	0.44
37	BUT	23	0.42
38	HAD	21	0.39
39	PEOPLE	20	0.37
40	ALSO	18	0.33
41	MAY	18	0.33
42	ONLY	18	0.33
43	AN	17	0.31
44	HEART	17	0.31
45	WAS	17	0.31
46	AVERAGE	16	0.29
47	BODY	15	0.28
48	CAN	15	0.28
49	CHILDREN	15	0.28
50	FATS	14	0.26

51	HE	14	0.26
52	LEVELS	14	0.26
53	WHEN	14	0.26
54	OTHER	13	0.24
55	THIS	13	0.24
56	THREE	13	0.24
57	BECAUSE	12	0.22
58	DIET	12	0.22
59	FAT	12	0.22
60	LOW	12	0.22
61	MOST	12	0.22
62	ONE	12	0.22
63	DISEASE	11	0.20
64	LIKELY	11	0.20
65	UP	11	0.20
66	WHICH	11	0.20

Move2 submove2

N	Word	Freq.	%
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1	THE	59	4.00
2	OF	44	2.98
3	A	42	2.85
4	#	40	2.71
5	AND	34	2.30
6	IN	33	2.24
7	TO	33	2.24
8	IS	28	1.90
9	ARE	22	1.49
10	FOR	15	1.02
11	BY	14	0.95
12	BUT	13	0.88
13	THAT	13	0.88
14	WITH	13	0.88
15	ABOUT	11	0.75
16	CANCER	11	0.75
17	THEY	11	0.75
18	BE	10	0.68
19	HAS	10	0.68
20	AS	9	0.61
21	FROM	9	0.61
22	IT	9	0.61
23	SAID	9	0.61
24	THEIR	9	0.61
25	AT	8	0.54
26	CAN	8	0.54
27	ONE	8	0.54
28	OR	8	0.54
29	FAT	7	0.47
30	MORE	7	0.47
31	PROGERIA	7	0.47
32	YEAR	7	0.47
33	AN	6	0.41
34	DISEASE	6	0.41
35	HAVE	6	0.41
36	NOT	6	0.41
37	ON	6	0.41
38	WHICH	6	0.41
39	WHO	6	0.41
40	AMERICANS	5	0.34
41	BEEN	5	0.34
42	DR	5	0.34
43	HE	5	0.34
44	ONLY	5	0.34
45	PEOPLE	5	0.34
46	PERCENT	5	0.34
47	THERE	5	0.34
48	WEIGHT	5	0.34
49	AMONG	4	0.27
50	BIRTH	4	0.27
51	BROWN	4	0.27
52	CAUSED	4	0.27
53	CERVICAL	4	0.27
54	CHILDREN	4	0.27
55	DEATH	4	0.27

56	EATING	4	0.27
57	HEART	4	0.27
58	LAB	4	0.27
59	LOSS	4	0.27
60	MOST	4	0.27
61	PATIENTS	4	0.27
62	SEIZURES	4	0.27
63	SOME	4	0.27
64	SURGERY	4	0.27
65	ADULTS	3	0.20
66	AGE	3	0.20
67	ALSO	3	0.20
68	ALZHEIMER'S	3	0.20
69	AVERAGE	3	0.20
70	BECAUSE	3	0.20
71	BRAIN	3	0.20
72	CALLED	3	0.20
73	CALORIES	3	0.20
74	CASES	3	0.20
75	CHOLESTEROL	3	0.20
76	COME	3	0.20
77	COMMON	3	0.20
78	CONSCIOUSNESS	3	0.20
79	DAMAGE	3	0.20
80	DRUGS	3	0.20
81	EACH	3	0.20
82	EPILEPSY	3	0.20
83	EVEN	3	0.20
84	KNOWN	3	0.20
85	NORMAL	3	0.20
86	PER	3	0.20
87	PHYSICAL	3	0.20
88	POOR	3	0.20
89	SO	3	0.20
90	THAN	3	0.20
91	USUALLY	3	0.20
92	VERY	3	0.20
93	WAS	3	0.20
94	WOMEN	3	0.20
95	YEARS	3	0.20

Move2 submove3

N	Word	Freq.	%
1	THE	238	6.24
2	OF	126	3.30
3	AND	100	2.62
4	#	99	2.59
5	TO	95	2.49
6	IN	83	2.17
7	A	80	2.10
8	THAT	39	1.02
9	FOR	34	0.89
10	IS	29	0.76
11	BY	28	0.73
12	AT	27	0.71
13	ON	27	0.71
14	STUDY	27	0.71
15	ARE	26	0.68
16	WITH	26	0.68
17	FROM	25	0.65
18	OR	25	0.65
19	RESEARCHERS	23	0.60
20	WAS	22	0.58
21	WERE	22	0.58
22	THEY	20	0.52
23	HAVE	18	0.47
24	IT	17	0.45
25	SAID	17	0.45
26	CELLS	16	0.42
27	HEALTH	15	0.39
28	PATIENTS	15	0.39
29	AS	14	0.37
30	BE	14	0.37
31	BRAIN	14	0.37
32	CANCER	14	0.37
33	HEART	14	0.37
34	THEIR	14	0.37
35	WHO	14	0.37
36	WHICH	13	0.34
37	DIET	12	0.31
38	NEW	12	0.31
39	SEIZURES	12	0.31
40	BUT	11	0.29
41	LOW	11	0.29
42	RESEARCH	11	0.29
43	STUDIES	11	0.29
44	ABOUT	10	0.26
45	AN	10	0.26

46	BLOOD	10	0.26
47	CAN	10	0.26
48	CHOLESTEROL	10	0.26
49	HE	10	0.26
50	INTO	10	0.26
51	JOURNAL	10	0.26
52	NOT	10	0.26
53	WOULD	10	0.26
54	CALLED	9	0.24
55	FAT	9	0.24
56	HUMAN	9	0.24
57	MEN	9	0.24
58	ONE	9	0.24
59	PEOPLE	9	0.24
60	RESULTS	9	0.24
61	YEAR	9	0.24
62	AMERICAN	8	0.21
63	LEVELS	8	0.21
64	MORE	8	0.21
65	MOST	8	0.21
66	OTHER	8	0.21
67	OUT	8	0.21
68	THAN	8	0.21
69	THEM	8	0.21

Move2 submove4

N	Word	Freq.	%
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1	THE	221	5.21
2	OF	156	3.67
3	A	104	2.45
4	AND	102	2.40
5	IN	101	2.38
6	TO	90	2.12
7	SAID	83	1.96
8	THAT	72	1.70
9	#	44	1.04
10	IS	40	0.94
11	AT	37	0.87
12	WITH	36	0.85
13	FOR	33	0.78
14	ARE	32	0.75
15	DR	28	0.66
16	IT	28	0.66
17	BE	27	0.64
18	WHO	27	0.64
19	STUDY	26	0.61
20	HE	22	0.52
21	THEY	20	0.47
22	HAVE	19	0.45
23	MORE	19	0.45
24	UNIVERSITY	18	0.42
25	BY	17	0.40
26	WAS	17	0.40
27	BUT	16	0.38
28	CANCER	16	0.38
29	ON	16	0.38
30	PATIENTS	16	0.38
31	SEIZURES	16	0.38
32	AS	15	0.35
33	BECAUSE	14	0.33
34	COULD	14	0.33
35	OR	14	0.33
36	PEOPLE	14	0.33
37	THEIR	14	0.33
38	CAN	13	0.31
39	HAD	13	0.31
40	NEW	13	0.31
41	RESEARCHERS	13	0.31
42	FOUND	12	0.28
43	MAY	12	0.28
44	MEDICAL	12	0.28
45	DRUGS	11	0.26

46	HAS	11	0.26
47	ONE	11	0.26
48	PERCENT	11	0.26
49	THAN	11	0.26
50	WE	11	0.26
51	WEIGHT	11	0.26
52	WOULD	11	0.26
53	AN	10	0.24
54	DRUG	10	0.24
55	EPILEPSY	10	0.24
56	FROM	10	0.24
57	NOT	10	0.24
58	RESEARCH	10	0.24
59	SCHOOL	10	0.24
60	STUDIES	10	0.24
61	THIS	10	0.24
62	YOU	10	0.24
63	CELLS	9	0.21
64	HIS	9	0.21
65	OBESITY	9	0.21
66	THOSE	9	0.21
67	UP	9	0.21
68	WERE	9	0.21

Move3

N	Word	Freq.	%
1	THE	110	5.79
2	AND	49	2.58
3	OF	47	2.47
4	TO	47	2.47
5	IN	44	2.31
6	THAT	42	2.21
7	A	29	1.53
8	#	27	1.42
9	IS	26	1.37
10	OR	20	1.05
11	HAVE	18	0.95
12	SAID	18	0.95
13	ARE	17	0.89
14	IT	17	0.89
15	NOT	17	0.89
16	BE	14	0.74
17	WHETHER	14	0.74
18	BUT	12	0.63
19	WEIGHT	12	0.63
20	AS	11	0.58
21	DIETS	11	0.58
22	STUDIES	11	0.58
23	MORE	9	0.47
24	ON	9	0.47
25	PEOPLE	9	0.47
26	THEIR	9	0.47
27	THEY	9	0.47
28	ALSO	8	0.42
29	BY	8	0.42
30	FAT	8	0.42
31	STUDY	8	0.42
32	THIS	8	0.42
33	WHO	8	0.42
34	WITH	8	0.42
35	DIET	7	0.37
36	FOR	7	0.37
37	HAS	7	0.37
38	HE	7	0.37
39	HEART	7	0.37
40	LONG	7	0.37
41	LOW	7	0.37
42	AN	6	0.32
43	BEEN	6	0.32
44	CALORIES	6	0.32
45	CAN	6	0.32
46	COULD	6	0.32
47	OTHER	6	0.32
48	RESEARCH	6	0.32
49	WE	6	0.32
50	WOULD	6	0.32

51	ABOUT	5	0.26
52	CARBOHYDRATE	5	0.26
53	CHINESE	5	0.26
54	DAY	5	0.26
55	DOCTORS	5	0.26
56	DR	5	0.26
57	EVEN	5	0.26
58	FOUND	5	0.26
59	HERBAL	5	0.26
60	IF	5	0.26
61	MAY	5	0.26
62	ONLY	5	0.26
63	OUT	5	0.26
64	OVER	5	0.26
65	SO	5	0.26
66	SOME	5	0.26
67	THAN	5	0.26
68	THOSE	5	0.26
69	THOUGH	5	0.26
70	TWO	5	0.26
71	WAY	5	0.26
72	YEAR	5	0.26
73	YEARS	5	0.26
74	ALL	4	0.21
75	ATKINS	4	0.21
76	ATTACKS	4	0.21
77	BLOOD	4	0.21
78	CELLS	4	0.21
79	CLEAR	4	0.21
80	DID	4	0.21
81	DRUG	4	0.21
82	DRUGS	4	0.21
83	HEALTH	4	0.21
84	KILOGRAMMES	4	0.21
85	LOSS	4	0.21
86	LOST	4	0.21
87	MANY	4	0.21
88	OBESE	4	0.21
89	OFF	4	0.21
90	PATIENTS	4	0.21
91	RESEARCHERS	4	0.21
92	TERM	4	0.21
93	THEM	4	0.21
94	USE	4	0.21
95	VERY	4	0.21
96	WAS	4	0.21
97	WERE	4	0.21
98	WITHOUT	4	0.21

Move4

N	Word	Freq.	%
1	AND	38	4.51
2	OF	32	3.80
3	THE	32	3.80
4	TO	21	2.49
5	IN	12	1.43
6	A	11	1.31
7	IS	11	1.31
8	THAT	11	1.31
9	ARE	10	1.19
10	#	9	1.07
11	IT	9	1.07
12	AS	8	0.95
13	FOR	8	0.95
14	GUIDELINES	8	0.95
15	CANCER	7	0.83
16	MAY	7	0.83
17	ON	7	0.83
18	DIET	6	0.71
19	FROM	6	0.71
20	WITH	6	0.71
21	ALSO	5	0.59
22	AT	5	0.59
23	BE	5	0.59
24	MORE	5	0.59
25	OR	5	0.59
26	SAID	5	0.59
27	BUT	4	0.48
28	BY	4	0.48
29	CALORIES	4	0.48
30	CONSUMPTION	4	0.48
31	FAT	4	0.48
32	GRAINS	4	0.48
33	HIGHER	4	0.48
34	IF	4	0.48
35	MODERATE	4	0.48
36	OTHER	4	0.48
37	PERCENT	4	0.48
38	RESEARCHERS	4	0.48
39	WHICH	4	0.48
40	WHO	4	0.48

41	WHOLE	4	0.48
42	ABOUT	3	0.36
43	ACTIVITY	3	0.36
44	AGAINST	3	0.36
45	BASED	3	0.36
46	BREAST	3	0.36
47	CALL	3	0.36
48	CAN	3	0.36
49	CANCERS	3	0.36
50	COULD	3	0.36
51	EVEN	3	0.36
52	EXERCISE	3	0.36
53	FATS	3	0.36
54	FISH	3	0.36
55	GENE	3	0.36
56	GROWTH	3	0.36
57	LEAST	3	0.36
58	LIKE	3	0.36
59	MEATS	3	0.36
60	METS	3	0.36
61	MINUTES	3	0.36
62	NOT	3	0.36
63	PATTERN	3	0.36
64	PEOPLE	3	0.36
65	PROTECT	3	0.36
66	RED	3	0.36
67	REFINED	3	0.36
68	RISK	3	0.36
69	SHOULD	3	0.36
70	STUDIES	3	0.36
71	SUCH	3	0.36
72	THEIR	3	0.36
73	THIS	3	0.36
74	VEGETABLES	3	0.36
75	WEIGHT	3	0.36
76	WELL	3	0.36

BIOGRAPHICAL DATA

NAME	Ms. Angvara Chanyiew
DATE OF BIRTH	October 12, 1978
PLACE OF BIRTH	Nakornnayok, Thailand
EDUCATION	1996-2000: Bachelor of Liberal Arts, Thammasart University, Bangkok, Thailand 2002-2006: Master of Arts (English for Specific Purposes), Kasetsart University, Bangkok, Thailand
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