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South Korean Study in a Public Health -Preventive Medicine and Sports Environment-

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Objectives : The aim of this study was to develop search filters able to retrieve the South Korean scientific output and relating the fields of public health, preventive medicine, and physical education, activity, fitness, exercise and sport in MEDLINE between 2000 and 2007.

Methods : The search filters were constructed and applied in MEDLINE accessed through PubMed according to the affiliation and subject. The language and place of publication were identified and the evaluation of the geographical filter performance was done.

Results : The search format was successfully elaborated and applied, and the articles originated, published in Korea and/or abroad focusing on the fields of public health, preventive medicine, physical education, activity, fitness, exercise and sport, added to MEDLINE between 2000 and 2007 were retrieved. Publications in six languages originated in South Korea were detected.

Conclusions : A geographic search filter determined the South Korean research output, and combined with additional filters focused on specific areas. The dynamics of the scientific output followed an increased evolution in all categories. Articles were written mainly in English/Korean. Further research is recommended on developing search strategies in order to retrieve precise and reliable information.

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Key words : Bibliometrics, Public health, Preventive medicine, Exercise, Motor activity, South Korea

INTRODUCTION

Since the increase in the number of biomedical publications has gone from being excellent news to become a terrible nightmare (only MEDLINE reports yearly 560,000 new scientific articles) [1] the search filters are particularly useful in retrieving and selecting desired information. The search filters are created by finding and combining specific terms in order to retrieve records with a common feature and to improve the efficiency and effectiveness of the searching process [2]. Their utility is explainable since the rapid increase in biomedical publications is evident and it was demonstrated that people working in research are utilizing more and more search filters in their literature searches [3]. The geographical distribution of publications has become a topic of interest in several areas as an indicator of the research amount and in the fields of Public Health (PH) and Preventive Medicine (PM), some data reveal that between 1995 and 2003, Asia produced 4.2% of the Public Health, and 13.7% of the Preventive Medicine, Occupational or Environmental Medicine worldwide research production [4]. The search filters are combinations of terms used to retrieve information in definite field, such as public health or preventive medicine, exercise, physical education or activity or sport, topics focused on in this study. Physical education, physical activities, physical exercise or sport participation are significant part of health promotion and there is important relation between these areas [5]. Owing to their positive effects on the human body the health benefits have been related to energy expenditure by means of programmes or recreational activities like dancing for example [6,7]. PM decisions become more complex as the population ages. The leading causes of death in older adults involve also factors related to the physical inactivity and the beneficial influence of the physical exercise was clearly evidenced among others factors [8]. The sedentary behavior among older adults increases the risk for chronic diseases meanwhile physical activity prevents obesity, considered epidemic in Korea [9] and reduces its impact on the risk of coronary events [10-12]. In the Korean PH field in order to reduce the burden of some diseases like stroke, other data reveal the necessity of health policy with regard to the risk factors like physical inactivity, hypertension, tobacco or alcohol consumption and relating them to specific disease [13]. Taking into account these aspects and given that physical inactivity became great PH concern [14] the need of special attention on the field of PH-PM and physical education, activity, exercise and sport area is even more justified and the research analysis in these fields should be encouraged.

The objective of this study was to develop and apply a generic search strategy for the determination of the South Korean scientific output (SO) added to MEDLINE database

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(accessed through PubMed) between 2000 and 2007 and focusing on the research field of PH, PM in a context of physical education, activity, fitness, exercise and sport.

METHODS

On a year-by-year basis between 2000 and 2007, a bibliographic search has been carried out by using search filters to detect the articles originated from South Korea, by any author, in any language and added to MEDLINE (accessed through PubMed), the world's largest medical library revealing topics in all areas of biomedicine and health care [15]. The search and the analysis of the data were carried out between December 1st and 17th 2008. The frequencies and percentages were calculated. The search strategy encompassed geographical and 'subject' search filters constructed by using geographical terms, Boolean operators, Medical Subject Heading (MeSH) Terms and search Tags (Table 1).

The geographical filter was constructed by using the affiliation Tag added to the term 'Korea' and by means of the Boolean 'OR', the following terms were also included in the filter: 'Republic of Korea' and 'South Korea'. In order to obtain accurate results with regard to South Korean SO and to avoid coincidences with regard to the Democratic People's Republic of Korea, the terms 'North Korea', 'Democratic People's Republic of Korea' and 'DPR Korea' were excluded from the search by means of the Boolean 'NOT'. Other parameters taken into consideration when constructing the geographical filter were the seven main South Korean cities: Seoul, Busan, Daegu, Incheon, Gwangju, Daejeon and Ulsan (for one city, two terms were used: Pusan and Busan) and the nine South Korean provinces: Gyeonggi-do, Gangwon-do, Chungcheongbuk-do, Chungcheongnam-do, Jeollabuk-do, Jeollanam-do, Gyeongsangbuk-do, Gyeongsangnam-do and Jeju-do. Provinces, with and without the suffix '-do', were added to the filter with the affiliation Tag and combined with the Boolean 'OR'. Valderas et al. [16] or Sanz-Valero et al. [17] revealed the use of geographical filters in their studies.

Table 1. The search filters (geographical, and 'subject': A. PH-PM; B. SPORTS)

Geographical	(("Republic of Korea"[ad] OR "Korea"[ad] OR "South Korea"[ad]) NOT ("North Korea"[ad] OR "Democratic People's Republic of Korea"[ad] OR "DPR Korea"[ad])) OR Seoul[ad] OR (Busan[ad] OR Pusan[ad]) OR Daegu[ad] OR Incheon[ad] OR Gwangju[ad] OR Daejeon[ad] OR Ulsan[ad] OR (Gyeonggi-do[ad] OR Gyeonggi[ad]) OR (Gangwon-do[ad] OR Gangwon[ad]) OR (Chungcheongbuk-do[ad] OR Chungcheongbuk[ad]) OR (Chungcheongnam-do[ad] OR Chungcheongnam[ad]) OR (Jeollabuk-do[ad] OR Jeollabuk[ad]) OR (Jeollanam-do[ad] OR Jeollanam[ad]) OR (Gyeongsangbuk-do[ad] OR Gyeongsangbuk[ad]) OR (Gyeongsangnam-do[ad] OR Gyeongsangnam[ad]) OR (Jeju-do[ad] OR Jeju[ad])
Subject	**A. PH-PM:** "Preventive Medicine"[MeSH] OR "Public Health"[MeSH] OR "Public Health Nursing"[MeSH] OR "Students, Public Health"[MeSH] OR "Public Health Practice"[Mesh] OR "Schools, Public Health"[MeSH] OR "United States Public Health Service"[MeSH] OR "Public Health Informatics"[MeSH] OR "Education, Public Health Professional"[MeSH] OR "Public Health Dentistry"[MeSH] OR "Public Health Administration"[MeSH] OR "American Public Health Association"[MeSH] OR "Environment and Public Health"[MeSH] OR "Population Surveillance"[MeSH]; **B. SPORTS:** "Sports"[Mesh] OR "Doping in Sports"[MeSH] OR "Racquet Sports"[Mesh] OR "Snow Sports"[MeSH] OR "Sports Equipment"[MeSH] OR B. "Sports Medicine"[MeSH] OR "Athletic Performance"[MeSH] OR "Athletic Injuries"[MeSH] OR "Exercise"[MeSH] OR "Asthma, Exercise-Induced"[MeSH] OR "Exercise Therapy"[MeSH] OR "Exercise Test"[MeSH] OR "Exercise Movement Techniques"[MeSH] OR "Exercise Tolerance"[MeSH] OR "Muscle Stretching Exercises"[MeSH] OR "Breathing Exercises"[MeSH] OR "Physical Education and Training"[MeSH] OR "Physical Fitness"[MeSH] OR "Motor Activity"[MeSH]

PH-PM: public health and preventive medicine

In order to create search equations focusing on 'subject' and revealing the fields of PH and/or PM and physical education, activity, fitness, exercise and/or sport ('subject' filters), the MeSH Database as part of the PubMed Services was accessed. The terms 'preventive medicine' and 'public health' (items: 'public health', 'public health nursing', 'students, public health', 'public health practice', 'schools, public health', 'United States public health service', 'public health informatics', 'education, public health professional', 'public health dentistry', 'public health administration', 'American public health association', 'environment and public health', and 'population surveillance') were selected and combined in a common equation.

Secondly were selected the terms 'sports' (items: 'sports', 'doping in sports', 'racquet sports', 'snow sports', 'sports equipment', 'sports medicine', 'athletic performance', and 'athletic injuries'), 'exercise' (items: 'exercise', 'asthma, exercise-induced', 'exercise therapy', 'exercise test', 'exercise movement techniques', 'exercise tolerance', 'muscle stretching exercises', 'breathing exercises'), 'physical education and training', 'physical fitness' and 'motor activity', combined by using the Boolean 'OR' in a second equation. In the continuation of this article the abbreviation for the public health and preventive medicine field/equation will be 'PH-PM' and for the physical education, activity, fitness, exercise and sport field, 'SPORTS'. All the terms were combined by means of the Boolean 'OR' and the equations obtained were added to the geographical filter by using the Boolean 'AND' individually/both. The search filters are shown in the Table 1.

With the purpose to define and distribute the Korean SO into two categories: 'published in Korea' and 'published abroad', a new equation was created by using the 'publication place' Tag added to the name of the country. Given that the neighboring country, Democratic People's Republic of Korea (North Korea), is not listed on the countries 2008 journal list of this database, and no results were obtained by applying the 'publication place' filter for this country, no corresponding exclusion equation was constructed. The equation obtained was crossed with the geographical and 'subject' filter by means of the Boolean 'AND'. To observe the SO published abroad/in Korea, the equation was

Table 2. Korean annual distribution of articles by language and place of publication in numerical and (percentage term)

Characteristics		Yr								Total
Place of publication	Language	2000	2001	2002	2003	2004	2005	2006	2007	
Korea	Korean	0 (0.0)	25 (1.5)	70 (4.3)	117 (7.2)	321 (19.8)	323 (19.9)	322 (19.8)	445 (27.4)	1,623 (2.8)
	English	584 (8.0)	666 (9.1)	773 (10.5)	933 (12.7)	957 (13.0)	1,081 (14.7)	972 (13.2)	1,384 (18.8)	7,350 (12.6)
	Other	No articles in other language(s) found								0 (0.0)
Abroad	Korean	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	English	3,210 (6.5)	3,947 (8.0)	4,467 (9.1)	5,382 (11.0)	6,367 (13.0)	7,727 (15.7)	8,276 (16.8)	9,773 (19.9)	49,149 (84.5)
	Other	0 (0.0)	0 (0.0)	1 (10.0)	2 (20.0)	0 (0.0)	4 (40.0)	0 (0.0)	3 (30.0)	10 (0.02)
Total SO		3,794 (6.5)	4,638 (8.0)	5,311 (9.1)	6,434 (11.1)	7,647* (13.2)	9,135 (15.7)	9,570 (16.5)	11,605 (20.0)	58,134* (100)

*Two articles (2004) of which language of publication was posted in both English and Korean were added to 'Total SO' category but not to 'Language' category.
SO: scientific output

Table 3. Korean annual distribution of articles by language and place of publication in numerical and (percentage term) in the PH-PM field

Characteristics		Yr								Total
Place of publication	Language	2000	2001	2002	2003	2004	2005	2006	2007	
Korea	Korean	0 (0.0)	12 (2.5)	12 (2.5)	25 (5.2)	48 (10.0)	81 (16.9)	106 (22.1)	196 (40.8)	480 (2.6)
	English	120 (6.2)	148 (7.6)	168 (8.6)	214 (11.0)	221 (11.4)	303 (15.6)	321 (16.5)	449 (23.1)	1,944 (10.5)
	Other	No articles in other language(s) found								0 (0.0)
Abroad	Korean	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
	English	798 (5.0)	1,106 (6.9)	1,338 (8.4)	1,611 (10.1)	2,045 (12.8)	2,622 (16.4)	2,915 (18.2)	3,576 (22.3)	16,011 (86.8)
	Other	0 (0.0)	0 (0.0)	0 (0.0)	1 (16.7)	0 (0.0)	3 (50.0)	0 (0.0)	2 (33.3)	6 (0.03)
Total		918 (5.0)	1,266 (6.9)	1,518 (8.2)	1,851 (10.0)	2,314 (12.6)	3,009 (16.3)	3,342 (18.1)	4,223 (22.9)	18,441 (100)

PH-PM: public health and preventive medicine

constructed by using the Boolean 'NOT'/' AND'.

I. The Evaluation of the Geographical Filter Performance

The geographic filter performance was evaluated by checking the results obtained after the application of the geographical filter, by means of a manual revision to all the articles' affiliation section obtained. The manual revision classified the article into two categories: 'relevant' and 'not relevant'. Relevant articles were those in any language(s), by any author(s) and of which affiliation section mentioned any center(s) located in South Korea. The articles not fulfilling this condition were classified as 'not relevant'. The agreement/non-agreement percentages were calculated. There were considered two samples for evaluation based on the SO originated in Korea, published in a national environment or abroad and added to MEDLINE between 2000 and 2007: 1) the first sample consisted of the SO belonging to the field of PH-PM obtained by crossing the PH-PM 'subject' filter and the geographical filter and 2) the second sample consisted of the SO belonging to the SPORTS field and obtained by crossing the SPORTS and geographical filter.

Considering the language of publication an important parameter related to the SO, all the searches were carried out for English and/or Korean language by using the language option permitted by the database search system. To find the publications in other languages, the same equations were used but excluding the 'English' and 'Korean' languages with the language of publication Tag and by using the Boolean 'NOT'. The articles were categorized into: 'Korean', 'English' and the references in other language were classified into 'other language' category.

The selection and classification of the articles were carried out by a professional in medicine with special training in PH-PM and sports medicine. The statistical analysis was performed with the SPSS ver. 11 program.

RESULTS

According to the search strategy used in this study, a number of 58,134 articles represented the SO originated in Korea, published in Korea (15.44%) or abroad (84.56%) and added to MEDLINE between 2000 and 2007 (Table 2). 18,441 (31.27%) references were published in the field of PH-PM (Table 3). Two bilingual articles Korean-English were found in 2004. These articles counted for the SO but were not included in either English/Korean language category articles. No languages other than English/Korean were found for the articles published in Korea and almost all of the articles published abroad were in English except one in Japanese (2002), one in French and one in Chinese (2003), two articles in German and two in French (2005), one in Chinese (2006) and two publications in Chinese (2007). In the field of PH-PM all of the articles published in Korea were in English/Korean and with regard to the articles published abroad, excluding one article in French (2003), two articles in German and one in French (2005) and two in Chinese (2007), all publications were written in English.

A number of 576 (0.99%) articles were published in the SPORTS field (Table 4), 106 (18.40%) in Korea and 470 (81.60%) abroad. All the articles were published in English/Korean and English predominated as language of publication in both environments

Table 4. Korean annual distribution of articles by language and place of publication in numerical and (percentage term) in the SPORTS field

Characteristics		Yr								Total
Place of publication	Language	2000	2001	2002	2003	2004	2005	2006	2007	
Korea	Korean	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (17.0)	11 (23.4)	14 (29.8)	14 (29.8)	47 (8.2)
	English	4 (6.8)	2 (3.4)	7 (11.9)	6 (10.2)	11 (18.6)	4 (6.8)	11 (18.6)	14 (23.7)	59 (10.2)
	Other	No articles in other language(s) found								0 (0.0)
Abroad	Korean	No articles in Korean found								0 (0.0)
	English	20 (4.3)	38 (8.1)	33 (7.0)	58 (12.3)	58 (12.3)	86 (18.3)	76 (16.2)	101 (21.5)	470 (81.6)
	Other	No articles in other language(s) found								0 (0.0)
Total		24 (4.2)	40 (6.9)	40 (6.9)	64 (11.1)	77 (13.4)	101 (17.5)	101 (17.5)	129 (22.4)	576 (100)

Table 5. Korean annual distribution of articles by language and place of publication in numerical and (percentage term) in the field of PH-PM focusing on the SPORTS area

Characteristics		Yr								Total
Place of publication	Language	2000	2001	2002	2003	2004	2005	2006	2007	
Korea	Korean	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (23.5)	3 (17.7)	10 (58.8)	17 (6.3)
	English	1 (3.9)	0 (0.0)	3 (11.5)	5 (19.2)	3 (11.5)	3 (11.5)	6 (23.1)	5 (19.2)	26 (9.7)
	Other	No articles in other language(s) found								0 (0.0)
Abroad	Korean	No articles in Korean found								0 (0.0)
	English	9 (4.0)	19 (8.4)	15 (6.7)	25 (11.1)	27 (12.0)	42 (18.7)	35 (15.6)	53 (23.6)	225 (84.0)
	Other	No articles in other language(s) found								0 (0.0)
Total		10 (3.7)	19 (7.1)	18 (6.7)	30 (11.2)	30 (11.2)	49 (18.3)	44 (16.4)	68 (25.4)	268 (100)

PH-PM: public health and preventive medicine

Table 6. Geographical filter's evaluation: relevant/not-relevant articles in numerical (and agreement/non-agreement percentage) terms on the PH-PM and SPORTS samples

Filter's performance		Articles: N (agreement/non-agreement %)		
		Relevant	Not relevant	Total (%)
Geographical AND	PH-PM	18,430 (99.94)	11 (0.06)	18,441 (100)
	SPORTS	576 (100)	0 (0)	576 (100)

PH-PM: public health and preventive medicine

national and abroad. The increased used of English as language of publication even in a national context was evident and observed in some other countries, Kevelaitis and Grabauskas [18] showing in a study between 2001-2006 an increase of English as language of publication in Lithuania.

Combining the 'subject' filters and adding them to the geographical filter, 268 articles were found belonging to PH-PM area and focusing on the SPORTS field (Table 5), 43 (16.04%) published in Korea and 225 (83.96%) published abroad. The language of publication was Korean/English in a national environment and only English in the articles published abroad.

The evaluation of the geographical filters carried out by means of a manual revision revealed the following results: the first sample in the field of PH-PM encompassed 18,441 references. The manual revision confirmed the correct inclusion for a number of 18,430 articles and incorrect inclusion for 11 publications. From the total of 11 'not relevant' articles, 10 (90.91%) were carried out in: North America (6 references), Germany (2 references), Japan (1 reference) and Canada (1 reference). The incorrect retrieval occurred owing to the fact that the filter retrieved affiliations containing one of the following words: 'Korea', 'Pusan', 'Seoul', or 'Yonsei', included in the electronic mail of the (perhaps Korean) authors. One (9.09%) non-relevant article carried out at John Hopkins University in Baltimore (USA) was retrieved because the use of the (probably wrong) fragment '…Seoul of Medicine…', the correct form being perhaps 'School of Medicine'. The sample for evaluation corresponding to SPORTS field consisted of 576 references. The correct inclusion of the affiliation of Korean research centers found by means of the manual revision coincided with the affiliation detected by the filter in all the cases (100%). The results of the filter's evaluation for both samples are shown in numerical and agreement/non-agreement percentage terms in the Table 6. At the end of the evaluation process the U.S. National Library of Medicine was informed about to the mistake detected.

DISCUSSION

The search strategy proposed in this article was carried out by developing and applying a geographical search filter for MEDLINE to detect the Korean SO, focusing on the area of PH-PM and SPORTS. In both areas the SO has followed an evident upward trend, culminating in 2007 when globally. Previous bibliometric studies revealed also important increases in the annual Korean scientific publication outputs in MEDLINE [19]. According to those data 5,979 articles contributed from Korean medical colleges were found in MEDLINE eight years before 2000 (1992-1999). The present study detected a general research output of 58,134 articles originated from Korean research centers at the date of the search between 2000 and 2007. The number of Korean journals

indexed for MEDLINE has most likely had an impact on these results. In 2000, six Korean journals were indexed for MEDLINE, and 19 journals were indexed in 2008 according to the List of Journals Indexed (LJI) for MEDLINE in 2008 [20]. The Journal of Biochemistry and Molecular Biology is included in the LJI 2008 but searching PubMed was found to have not been indexed since 2007. This may happen because the time lag between when a change to a serial occurs and the database records' updating. The Korean Journal of Biological Sciences was found during the manual revision but is not indexed for MEDLINE any longer and neither listed in the LJI in 2008.

Since there are MEDLINE journals indexed from all over the world using different languages, the language search option is an important aspect in scientific literature. The Korean centers' preference for English is evident in both categories, published in Korea or abroad. The high number of publications in English in Korea may be explained by the researchers' interest in transmitting their information using the most internationally visible language, added to the fact that during the period of time studied thirteen Korean journals indexed for MEDLINE published in English meanwhile four in Korean. Three Korean journals offered researchers the possibility to publish in English/Korean. The use of English provides excellent 'internationalization', however, in the national context perhaps limiting access to only those who understand this language. It is clear the higher amount of articles published abroad, about 6.6 times more than in Korea in the PH-PM area written in English almost in totality, 4.4 times more in the SPORTS field and 5.2 times more in PH-PM in the SPORTS context. Some studies revealed that most of the older adults remain sedentary or insufficiently active in absence of some intervention; in Korea less than 10% of elders are engaged in regular physical activity [21]. Given that the relation PH-PM and SPORTS area is very important with regard to the health of the population, we consider benefic the increased SO observed in the last eight years in these fields.

Within the framework of the search strategies, Fraser et al. [22] described the use of the methodological search filters and other studies analysed the bibliometric use with its characteristics in MEDLINE [23] or determined the SO in specific health environment [24] or medical area such as in the field of anaesthesiology or urology [25,26]. Jung et al. [27,28] analysed in their study some research aspects in a North Korean and South Korean PM context.

The application of geographical search filters permit the detection of studies related to specific location, subject and/or specific period of time. A limitation with regard to the obtaining of greater information when searching MEDLINE database through PubMed by using geographical filters may be related to the fact that some references encompassed by MEDLINE database may not reveal the affiliation aspect; in this case the geographical filter may not detect the articles.

In summary, by constructing and using search filters this study obtained 'radiography' of the Korean research added to MEDLINE (accessed through PubMed) between 2000 and 2007 and its dynamics, focusing on the fields of PH-PM and SPORTS and revealing parameters related to the language and place of publication. The results of this study are tentative and further research is recommended in the search strategies sphere in order to retrieve information.

A search filter involving geographical and 'subject' aspect, has been developed and applied to identifying studies defining the Korean SO, relating the field of Public Health and Preventive Medicine to the SPORTS (physical education, activity, fitness, exercise and sport) field in a specific period of time in MEDLINE. The search strategy presented in this article can be valuable tool in developing further bibliometric studies, retrieving desired information, and the data provided and the topics analyzed can be useful information for researchers interested in Korean research situation of a bibliometric point of view in a health context and focusing on the field of physical education, activity, fitness, exercise and sports.

REFERENCES

1. Bautista Cabello J, Ignacio Emparanza J, Ansuategi E. Improving literature searches: Geographic filters, methodology filters. Two different algorithms, two different applications. *Rev Esp Cardiol* 2006; 59(12): 1221-1224. (Spanish)
2. Glanville J, Bayliss S, Booth A, Dundar Y, Fernandes H, Fleeman ND, et al. So many filters, so little time: The development of a search filter appraisal checklist. *J Med Libr Assoc* 2008; 96(4): 356-361.
3. Jenkins M. Evaluation of methodological search filters-a review. *Health Info Libr J* 2004; 21(3): 148-163.
4. Soteriades ES, Falagas ME. A bibliometric analysis in the fields of preventive medicine, occupational and environmental medicine, epidemiology, and public health. *BMC Public Health* 2006; 6: 301.
5. Dodson EA, Lovegreen SL, Elliott MB, Haire-Joshu D, Brownson RC. Worksite policies and environments supporting physical activity in midwestern communities. *Am J Health Promot* 2008; 23(1): 51-55.
6. Warburton DE, Nicol CW, Bredin SS. Prescribing exercise as preventive therapy. *CMAJ* 2006; 174(7): 961-974.
7. Aktas G, Ogce F. Dance as a therapy for cancer prevention. *Asian Pac J Cancer Prev* 2005; 6(3): 408-411.
8. Spalding MC, Sebesta SC. Geriatric screening and preventive care. *Am Fam Physician* 2008; 78(2): 206-215.
9. Park YJ, Lee WC, Yim HW, Park YM. The association between sleep and obesity in Korean adults. *J Prev Med Pub Health* 2007; 40(6): 454-460. (Korean).
10. Goldstein MG, Pinto BM, Marcus BH, Lynn H, Jette AM, Rakowski W, et al. Physician-based physical activity counseling for middle-aged and older adults: A randomized trial. *Ann Behav Med* 1999; 21(1): 40-47.
11. Jensen MK, Chiuve SE, Rimm EB, Dethlefsen C, Tjonneland A, Joensen AM, Overvad K. Obesity, behavioral lifestyle factors, and risk of acute coronary events. *Circulation* 2008; 117(24): 3062-3069.

12. Fogelholm M. How physical activity can work? *Int J Pediatr Obes* 2008; 3(Suppl 1): 10-14.
13. Lee H, Yoon SJ, Ahn HS, Moon OR. Estimation of potential health gains from reducing multiple risk factors of stroke in Korea. *Public Health* 2007; 121(10): 774-780.
14. Kovacic L. Physical inactivity as public health problem. *Acta Med Croatica* 2007; 61(Suppl 1): 5-7. (Croatian)
15. US National Library of Medicine. About the National Library of Medicine [Internet]. Bethesda: US National Library of Medicine; c2008 [cited 2008 March 15]. Available from URL: http://www.nlm.nih.gov/about/index.html.
16. Valderas JM, Mendivil J, Parada A, Losada-Yanez M, Alonso J. Development of a geographic filter for PubMed to identify studies performed in Spain. *Rev Esp Cardiol* 2006; 59(12): 1244-1251. (Spanish)
17. Sanz-Valero J, Veiga de Cabo J, Rojo-Alonso C, D'Agostino MJ, Wanden-Berghe C, Espulgues Pellicer JX, et al. Los filtros metodologicos: Aplicacion a la busqueda bibliografica en la medicina del trabajo Espanola. *Med Segur Trab* 2008; 54(211): 75-83. (Spanish)
18. Kevelaitis E, Grabauskas V. Towards the impact factor. *Medicina (Kaunas)* 2007; 43(2): 91-95.
19. Han MC, Lee CS. Scientific publication productivity of Korean medical colleges: An analysis of 1988-1999 MEDLINE papers. *J Korean Med Sci* 2000; 15(1): 3-12.
20. US National Library of Medicine. List of journal indexed for MEDLINE 2008: geographic listing [Internet]. Bethesda: US National Library of Medicine; c2008 [cited 2008 Nov 18]. Available from URL: ftp://nlm-pubs.nlm.nih.gov/online/journals/ljiweb.pdf.
21. Lim KC, Kayser-Jones JS, Waters C, Yoo G. Aging, health, and physical activity in Korean Americans. *Geriatr Nurs* 2007; 28(2): 112-119.
22. Fraser C, Murray A, Burr J. Identifying observational studies of surgical interventions in MEDLINE and EMBASE. *BMC Med Res Methodol* 2006; 6: 41.
23. Loria A, Arroyo P. Language and country preponderance trends in MEDLINE and its causes. *J Med Libr Assoc* 2005; 93(3): 381-385.
24. Radut DS, Alvarez-Dardet C, Ruiz MT. Medical Scientific Romania in the European context. *Oftalmologia* 2006; 50(2): 10-17. (Romanian)
25. Schreiber K, Kindler CH. Bibliometric analysis of anaesthetic molecular biology research in Germany, Austria and Switzerland. *Anaesthesist* 2005; 54(11): 1094-1099. (German)
26. Oelrich B, Peters R, Jung K. A bibliometric evaluation of publications in urological journals among European Union countries between 2000-2005. *Eur Urol* 2007; 52(4): 1238-1248.
27. Jung M, Chung D, Choi M. Keywords network analysis of articles in the North Korean Journal of Preventive Medicine 1997-2006. *J Prev Med Public Health* 2008; 41(6): 365-472. (Korean)
28. Jung M, Chung D. Co-author and keyword networks and their clustering appearance in preventive medicine fields in Korea: Analysis of papers in the Journal of Preventive Medicine and Public Health, 1991-2006. *J Prev Med Public Health* 2008; 41(1): 1-9. (Korean)