

Production of Nursing knowledge regarding potential life years lost: a bibliometric study**Produção do conhecimento de Enfermagem sobre os anos potenciais de vida perdidos: estudo bibliométrico****Producción del conocimiento de Enfermería sobre los años potenciales de vida perdidos: estudio bibliométrico****Luan Augusto Alves Garcia¹****Fernanda Carolina Camargo²****Thays Heloise de Moura Gomes³****Marina Pereira Rezende⁴****Gilberto de Araújo Pereira⁵****Helena Hemiko Iwamoto⁶****Álvaro da Silva Santos⁷****Received: 15/05/2016**
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The goal is to identify the production of knowledge in nursing on the use of the epidemiological index Potential Life Years lost (PLYL). This is a review of the BVH/Lilacs and Scielobibliometric databases, through the use of an isolated descriptor: potential years of life lost, and considering only complete articles in Portuguese, published from 2007 to 2016. 46 articles were found, 19 of which were selected for reading in full. The descriptive analysis of the publications showed non-linearity of these in the last ten years, with a few peak years (2011, n=4; 2009/2012 and 2014, n=3 each). Most of the publications were found in magazines which are not nursing specific (63.1%). External causes (63.2%) and the northeast of Brazil (n=10) were respectively the most common theme and scenario. Only two articles presented international collaboration and 39.5% of all authors were nurses. Epidemiological aspects affect the design of Nightingalean modern nursing. Thus, it is suggested that other reviews are carried out to delineation these surveys better and in an international scope and to improve the quality of the published works.

Descriptors: Potential years of life lost; Epidemiologic studies; Nursing research; Bibliometrics.

Objetiva-se identificar a produção do conhecimento em Enfermagem sobre a utilização do indicador epidemiológico Anos Potenciais de Vida Perdidos (APVP). Trata-se de revisão bibliométrica da literatura considerando as bases de dados BVS/Lilacs e Scielo, pelo descritor isolado: anos potenciais de vida perdidos, com artigos completos em língua portuguesa, de 2007 a 2016. Foram encontrados 46 artigos e selecionados para leitura na íntegra 19 deles. A análise descritiva das publicações evidenciou não linearidade destas nos últimos dez anos, sendo alguns anos de pico (2011/n=4; 2014, 2012 e 2009/n=3 cada). Maior parte das publicações encontra-se em revistas não específicas de Enfermagem (63,1%). Causas externas (63,2%) e região Nordeste (n=10) foram tema e cenário de estudo mais recorrentes. Apenas dois artigos apresentaram colaboração internacional e Enfermeiros perfizeram 39,5% do total de autores. Aspectos epidemiológicos tangenciam a concepção de Enfermagem Moderna nightingaleana. Assim, sugere-se que outras revisões sejam realizadas para um melhor delineamento destas pesquisas em âmbito internacional e melhorar a qualidade das publicações.

Descritores: Anos potenciais de vida perdidos; Estudos epidemiológicos; Pesquisa em enfermagem, Bibliometria.

El objetivo de este estudio es identificar la producción del conocimiento en enfermería sobre la utilización del indicador epidemiológico Años Potenciales de Vida Perdidos (APVP). Se trata de una revisión bibliométrica de la literatura considerando las bases de datos BVS/Lilacs y Scielo, por el descriptor aislado: años potenciales de vida perdidos, con artículos completos en el idioma portugués, de 2007 a 2016. Fueron encontrados 46 artículos y seleccionados para lectura completa 19 de ellos. El análisis descriptivo de las publicaciones demostró la no linealidad de estos en los últimos diez años, siendo algunos años de pico (2011/n=4; 2009/2012 y 2014, n=3 cada uno). La mayoría de las publicaciones no se encontraban en revistas específicas de enfermería (63,1%). Causas externas (63,2%) y región noreste de Brasil (n=10) fueron tema y escenario de estudio más recurrente. Sólo dos artículos presentados tuvieron colaboración internacional y la participación de enfermeros llegó a 39,5% del total de los autores. Aspectos epidemiológicos afectan la concepción de la enfermería moderna nightingaleana. Así, se sugiere que otras revisiones sean realizadas para una mejor delineación de estas investigaciones en el ámbito internacional y mejorar la calidad de las publicaciones.

Descritores: Años potenciales de vida perdidos; Estudios epidemiológicos; Investigación en enfermería; Bibliometría.

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INTRODUCTION

Currently, for the evaluation of health conditions, epidemiological elements capable of predicting the risk of illnesses and health vulnerabilities are highly impactful. These are relatively recent concepts, which started to be developed in the second part of the twentieth century. Their use is closely connected to the efforts to move past Cartesian health care models. The results of the application of these concepts are linked to the ability to predict, control, or eliminate factors which create predispositions to illnesses, in order to reduce its damage or prevent it from occurring^{1,2}.

Health indexes are used in order to evaluate risks and identify vulnerabilities. These indexes are frequency measures, time units, or even concepts relative to associative measures^{1,2}. As a general rule, health indexes aim at contributing to the definition of health priorities and for decision making in the relative areas of knowledge. Therefore, they generate a common basis for comparisons between interventions and distinct health problems. The use of epidemiological tools is essential for the health indexes. They are supported by valid and trustworthy data, through synthesis-measures. They can address demographic, socioeconomic, mortality, and morbidity dimensions, as well as those involving risk factors, health resources and assistencial coverage¹⁻³.

As health indexes, the impact of Potential Life Years Lost (PLYL) are epidemiological indexes for the prediction of premature deaths. They have been being used for the monitoring of these deaths, and for the redefinition of priorities in health. The measure of PLYL emphasizes the specific death causes which affect different age groups, resulting in a different ordering of causes of death. The PLYL can be used as synthesis-measures, and are more easily understood and compared among populations than a large number of age specific coefficients, working as an initial triage in data analysis in areas where there is excessive mortality⁴⁻⁶.

To establish the context of the use of health indexes in nursing, it is important to know that the care based in epidemiological knowledge was created from the point of view of Modern Nursing. Florence Nightingale, the precursor of Modern Nursing, was innovative in the redirecting of care. The use of epidemiological knowledge in Nightingale's propositions for the organization of nursing practice is undeniable, which clearly shows her pioneering in the field. She stood for her positions based in previous investigations, which came from her observations and her records regarding the health conditions of specific groups^{7,8}.

Furthermore, based on her mathematic and statistical knowledge, she used diagrams and graphical representations to present the results of her Nursing interventions and predict the health conditions of soldiers in the war of Crimea^{7,8}. Florence built the knowledge of Modern Nursing based on strategies which had an impact in the health of people who were put under situations identified as predisposed to bring about illnesses. It is based in rigorous analysis that the precursor of Modern Nursing proposes interventions such as the use of fresh air, heat, cleanliness, rest and diet to preserve optimal health conditions^{7,8}.

The motivation for this research comes from the need to recognize how Contemporary Nursing has been empowered by such epidemiological tools, especially the PLYL indexes, in order to develop scientific studies in the field. It can be noted that, in Nursing, many theoretical-methodological approaches have been being used, which enriches its body of knowledge. Therefore, recognizing researches developed in Nursing also contributes to determine the parameters of this profession, and for a better delineation of its role. Recognizing scientific studies produced by Nursing professionals supports the understanding of the direction it is taking^{7,9,10}.

Considering such a reality, this study asks the question: What is the production of Nursing knowledge when it comes to the use of the epidemiological index PLYL? In order

to evaluate that, its objective is to identify the production of Nursing knowledge regarding the use of the epidemiological index potential life years lost.

METHOD

It is a descriptive study conducted through a bibliometric revision. This is an accessible method of quantitative analysis of scientific production regarding a certain subject. Bibliometry is a discipline from Library Science and Information Sciences, usually used for the measurement and monitoring of scientific production. Its applications are vast and felt in several fields of knowledge, such as health. This method, beyond allowing for the recovery of information, subsidizes the quantitative evaluation of scientific activity, which is paramount for the researcher to accompany everything that is produced in their field of knowledge¹¹. Furthermore, it assists in the identification of the performance of researches which investigate such aspects of published works as authorship, research sources, themes, citations, among others¹².

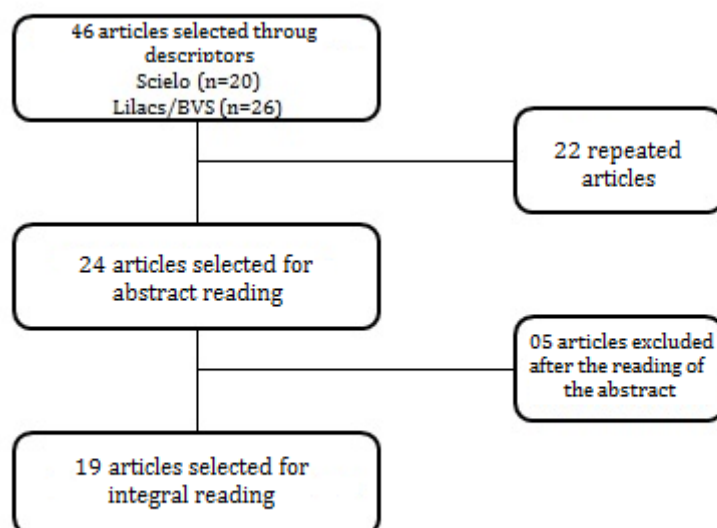
In order to conduct this revision, the databases chosen were Scielo and BVS/Lilacs. Scielo contemplates a selected collection of

Ibero-American scientific periodicals. Its objective is the development of a common methodology for the preparing, storing, dissemination and evaluation of scientific production in electronic formats. Among its specific objectives is the production of bibliometric indexes¹³. The BVS/Lilacs is the most important and comprehensive index of the technical and scientific literature produced in Latin America and the Caribbean, and it is a component of the Virtual Health Library¹⁴.

The search strategy was based on the use of a descriptor chosen from those in the Health and Science Descriptors (DeCS), which meant the use of the exact isolated descriptor potential life years lost.

Another strategy used was the choice of complete texts, scientific articles in Portuguese published in the last ten years (from January 2007 to March 2016), justified by the interest in getting to know the behavior of scientific production regarding the theme, nowadays and in a national scope. Data collection was conducted between January and July 2016. The scientific productions were selected according to Figure 1.

Figure 1. Fluxogram of the distribution and selection of articles. Uberaba/MG, 2016.



Regarding issues of ethics and authorship, all articles cited in this work will be accordingly referenced along this study, as

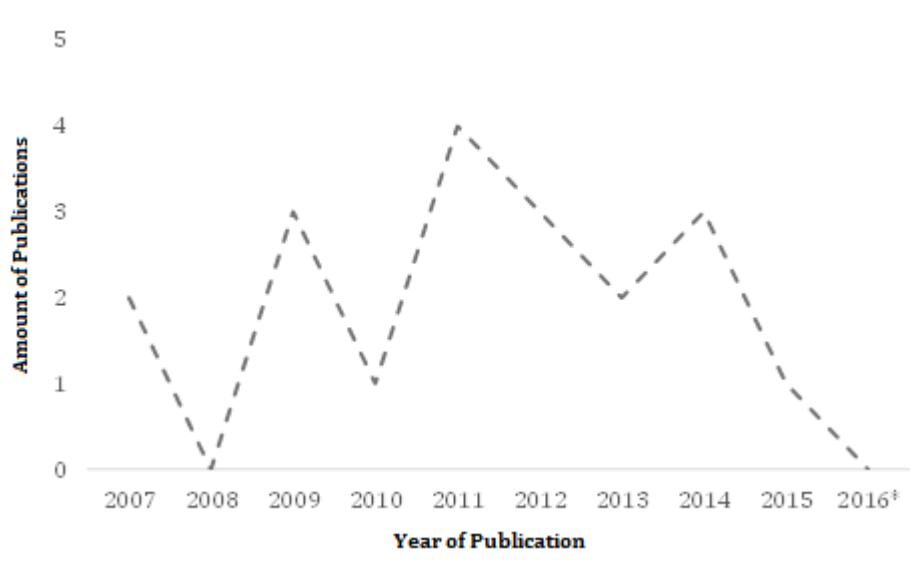
determined in Law no. 9.610, from February 1998¹⁵, which deals with copyright.

RESULTS

Regarding the analyzed articles, along the proposed time span, there is a growing number of articles up to 2011, and in this very year the largest amount of published articles is found (2011¹⁶⁻¹⁹; n=4 articles). However, there are some downfalls in this tendency, being that there were no

publications in 2008 and only one in 2010²⁰. In 2007^{21,22} there are two publications, and in 2009²³⁻²⁵, there are three. In the period from 2012 to 2016, the number of publications has decreased. There were only three in 2012²⁶⁻²⁸ and 2014²⁹⁻³¹, two in 2013^{32,33}, and one in 2015³⁴. There has not been any publications until March 2016 (Figure 2).

Figure 2. Evolution and Distribution of publications in the sample during the selection period, from 2007 to 2016 (*until March 2016). Uberaba/MG, 2016.



Regarding the periodicals that publish papers on the subject, from the 13 ones identified, most of the publications are in periodicals which deal specifically with Epidemiology or Public Health, when compared to those specifically devoted to Nursing studies, such as the following:: Cadernos de Saúde Pública^{17,22,27}(n=3); Epidemiologia & Serviços de Saúde^{18,31,32} (n=3); Revista de Saúde Pública^{16,24}(n=2); Texto & Contexto Enfermagem^{19,33}(n=2); Revista Panamericana de Salud Publica²⁰, Revista Brasileira de Saúde Materno Infantil²¹, Mundo da Saúde²³, DST-Jornal Brasileiro²⁵, Escola Anna Nery Revista de Enfermagem²⁶, Ciência & Saúde Coletiva²⁸, Revista Latino Americana de Enfermagem²⁹, Revista Brasileira de Epidemiologia³⁰ and UNOPAR Científica³⁴ (all, n=1) (Figure3).

Within the themes, regarding the main variables identified the 19 articles, most of them is related to external causes^{17,19,21,22,24,26,28-34}(13; 63.2%), mainly related to homicides (5; 38.5%). Sociodemographic aspects^{17, 18, 21, 23, 24, 30, 33} are related by 36.8% (7) of the articles, especially those related to the impact of this index regarding gender (5; 71.4%).

Transmissible diseases^{16,23,25,27} occupy the third most common category, comprising 21.1% of the publications (4 articles), among which the most common theme was that of AIDS (2,50.0%). Non-transmissible chronic diseases^{18,34} are the least common theme among the researched publications with the use of the PLYL index (10.5%) (Table 1).

Figure 3. Distribuição das publicações da amostra por periódico, 2007 a 2016 (até março de 2016). Uberaba/MG, 2016.

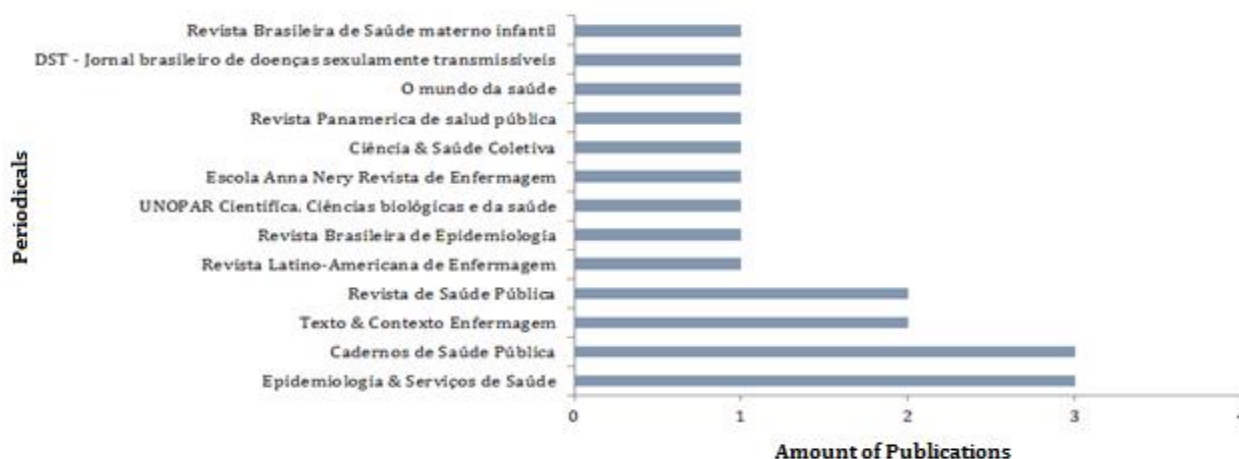


Table 1. Characterization of the publications (n=19) regarding the themes in the sample, from 2007 to March 2016. Uberaba/MG, 2016.

Theme	Specificgroups	n	%
External Causes ^{17,19,21,22,24,26,28-34}		13	63.2
	<i>External causes (General)</i>	2	15.4
	<i>Workaccident.</i>	2	15.4
	<i>TrafficAccident</i>	2	15.4
	<i>Suicide</i>	1	7.7
	<i>Homicide</i>	5	38.5
	<i>Drugpoisoning</i>	1	7.7
Chronic non-transmissible diseases ^{18,34}		2	10.5
	<i>Neoplasms</i>	1	50.0
	<i>DM and excessiveweight</i>	1	50.0
Transmissible Diseases ^{16,23,25,27}		4	21.1
	<i>Leptospirosis</i>	1	25.0
	<i>AIDS</i>	2	50.0
	<i>Viral hepatitis B</i>	1	25.0
Sociodemographic aspects ^{17,18,21,23,24,30,33}		7	36.8
	<i>Female</i>	5	71.4
	<i>Race/Skin color</i>	1	14.3
	<i>Other social determinants</i>	1	14.3

* A publication can possess one or more subjects. The relative frequency of secondary themes was calculated within each theme.

When it comes to the setting of the studies, most of them took place in the Brazilian Northeast^{17,18,20,21,27-29,31-33}(n=10). Different teaching institutions were involved with each work, regarding the authors of the publications. Only two studies were fruit of cooperation among the authors^{25,27}.

Twelve published articles had nurses as authors^{17-21,23,26,27,30-33}, although only five of them are exclusively written by nurses^{17,19,23,26,33}. However, through an analysis of the total of authors of all articles (n=76), the percentage of nurses corresponds to 39.5% (Chart 1).

Chart 1.a. Characterization of the articles according to their title, the institutions involved and their region, the setting where they took place, and their authors, ordained in a descending frequency according to the region of the setting of the study. Uberaba/MG, 2016.

Title and reference	Institutions involved according to the authors	Region of the institutions involved	Study Setting	Region of the study setting	Total number of authors	Nurse Authors	%
					n	n	
Deaths by homicide: historical series ²⁰	State University of Santa Cruz	Northeast	Itabuna, BA	Northeast (n = 11)	3	2	66.7
	Federal University of Alagoas						
	Nursing school of Ribeirão Preto, University of São Paulo	Southeast					
Determinantes sociais e sua interferência nas taxas de homicídio em uma metrópole do nordeste brasileiro ³⁰	Federal University of Ceará	Northeast	Fortaleza, CE		7	3	42.9
	Broad Association State University of Ceará and Fortaleza University	Northeast					
Anos Potenciais de Vida Perdidos por Causas Externas no Rio Grande do Norte, 2003 a 2012 ³⁴	Rio Grande do Norte Federal University	Northeast	Rio Grande do Norte		6	6	100.0
	Federal University of the Valley of São Francisco						
Anos potenciais de vida perdidos por acidentes de transporte no Estado de Pernambuco, Brasil, em 2007 ³²	Federal University of Pernambuco	Northeast	Pernambuco		5	0	0.0
	Research Centre Aggeu Magalhães, Institute Oswaldo Cruz Foundation						
Anos potenciais de vida perdidos por mulheres vítimas de homicídio na cidade do Recife, Pernambuco, Brasil ¹⁷	Federal University of Pernambuco	Northeast	Recife, PE		4	4	100.0
Evolução da mortalidade e dos anos potenciais e produtivos de vida perdidos por câncer de mama em mulheres no Rio Grande do Norte, entre 1988 e 2007 ¹⁸	Medical Sciences College, Pernambuco University	Northeast	Rio Grande do Norte		4	1	25.0
	Rio Grande do Norte Federal University	Northeast					
	Rio de Janeiro State University	Southeast					
Diferenciais de raça/cor da pele em anos potenciais de vida perdidos por causas externas ²⁴	Feira de Santana State University	Northeast	Salvador, BA	6	1	16.7	
	Federal University of Bahia						
	University of North Carolina at Chapel Hill	USA					
Anos potenciais de vida perdidos (APVP) por AIDS: Pernambuco, 1996 e 2005 ²⁵	Federal University of Pernambuco	Northeast	Pernambuco	2	0	0.0	
Anos potenciais de vida perdidos por mulheres em idade fértil na cidade do Recife, Pernambuco, vítimas de morte por homicídio nos anos de 2001 e 2002 ²¹	Mother Child Institute Professor Fernando Figueira-IMIP	Northeast	Pernambuco	4	1	25.0	
Mortalidade, anos potenciais de vida perdidos e incidência de acidentes de trabalho na Bahia, Brasil ²²	Federal University of Bahia	Northeast	Bahia	6	1	16.7	
	University of Brasília	Midwest					

Chart 1.b. Continuing... Characterization of the articles according to their title, the institutions involved and their region, the setting where they took place, and their authors, ordained in a descending frequency according to the region of the setting of the study. Uberaba/MG, 2016.

Title and reference	Institutions involved according to the authors	Region of the institutions involved	Study Setting	Region of the study setting	Total number of authors	Nurse Authors	%
					n	n	
Mortalidade por hepatite viral B no Brasil, 2000-2009 ²⁷	Training Program in Epidemiology as Applied in SUS Services, Ministry of Health.	Midwest	Brazil	National (n = 4)	4	0	0.0
Perfil da mortalidade por intoxicação com medicamentos no Brasil, 1996-2005: retrato de uma década ²⁸	National Health Surveillance Agency (Anvisa)	Midwest	Brazil		4	0	0.0
	University of Toronto	USA			4	0	0.0
Anos potenciais de vida perdidos e custos hospitalares da leptospirose no Brasil ¹⁶	Training Program in Epidemiology as Applied in SUS Services, Ministry of Health.	Midwest	Brazil		3	0	0.0
Fração da carga global do diabetes mellitus atribuível ao excesso de peso e à obesidade no Brasil ²⁰	Oswaldo Cruz Foundation, National School of Public Health (ENSP/FIOCRUZ)	Southeast	Brazil	Southeast (n = 3)	4	4	100.0
Violência autoinfligida e anos potenciais de vida perdidos em Minas Gerais, Brasil ¹⁹	Triângulo Mineiro Federal University	Southeast	Minas Gerais		4	4	100.0
Vulnerabilidade de mulheres à AIDS: estudo da mortalidade segundo anos potenciais de vida perdidos ²³	Nursing school at the USP, University of São Paulo	Southeast	Greater São Paulo, SP		2	2	100.0
Vítimas fatais e anos de vida perdidos por acidentes de trânsito em Minas Gerais, Brasil ²⁶	Triângulo Mineiro Federal University	Southeast	Minas Gerais	North (n = 2)	1	0	0.0
Morbimortalidade relacionada ao trabalho no estado do Amazonas, Brasil, 2000-2011 ³¹	Higher Education Health Sciences School, University of the State of Amazonas, Manaus-AM.	North	Amazonas		3	1	33.3
Mortalidade feminina e anos de vida perdidos por homicídio/agressão em capital brasileira após promulgação da lei Maria da Penha ³³	Federal University of Acre	North	Rio Branco, AC				

DISCUSSION

Considering how large the analyzed period is, the sample is composed of a small amount of article (n=19), an average of 1.9 articles per year. All of the articles use the instruments of the PLYL index. The use of PLYL as an epidemiological index puts together information regarding mortality, making it possible for a better understanding of the connection of premature deaths to different causes, groups and places^{35,36}.

The theme external causes was most commonly identified. This cause of death, which is emergent in the country, growing especially with urbanization, has been one of the main premature death factors, having sever impact among young adults (20 to 39 years old). There is an increase in the number of deaths brought about by such causes, and more potent intersectoral measures are required in order to confront the complexity this problem involves^{35,36}.

On the other hand, in spite of the magnitude of the problem, studies which used the PLYL to chronic non-transmissible diseases (CNTD) were the least frequent. It is possible that the low interest in using this premature mortality estimative tool when it comes to CNTD is related to the evolution of the disease itself, which is long lasting.

CNTD often manifest in late adult or elderly life, impacting the PLYL due to the number of deaths, and not to the age of the person when the death occurs. However, the importance of developing researches which use this index needs to be highlighted, since the confrontation of non-transmissible chronic diseases and their risk factors, in a national scope, is paramount^{37,38}.

The interference of social determinants in health has been a theme widely discussed by the scientific community. Comprehension of the increase in social determinants in mortality is increasingly sought after. Therefore, the use of analysis based on PLYL and related to conditional factors (sociodemographic, economic, or others) generates a greater knowledge of their relationship with the occurrence of deaths^{30,39}.

The concentration of productions which have as a study setting the Northeast region reveals the preoccupation that exists in recognizing the years of life lost by this population. Among Brazilian regions, it is the one with the greatest socioeconomic vulnerability. In view of the potential of premature deaths due to several different causes, this reality justifies local interest regarding the theme, and the use of the PLYL index in the studies^{17,18,21-25,29,30,34}.

Regarding nurses' authorship, even though most of the articles present nurses as authors, they proportionally comprise only 39.5% of the total number. Generally, nursing periodicals present the least amount of publications regarding the theme. This should be considered while taking into account the scope of the periodicals, to verify whether there are too few productions written by nurses using the epidemiological index PLYL. Among the identified themes, no articles containing epistemological analysis of the use of epidemiological indexes were found, especially in the case of PLYL, or the production of knowledge of Nursing.

All the institutions involved in the publications are public, Federal or State higher education institutions. That reveals the importance of such institutions to the expression of national scientific production⁴⁰. The participation of the Nurse in the development of researches have evolved greatly with the creation of post-graduate courses. There are direct links between the development of researches, the increase in article publications, their connections with university institutions and the expansion of post-graduation on a national level^{9,41}.

The international collaboration in the authorship of the analyzed articles is also diminished, which demonstrates that it is still a challenge for the Brazilian scientific Nursing production regarding PLYL. The organization of scientific projects based on international cooperation networks needs to be expanded in spite of the challenges it offers, related to the management of the team, the diversification in the obtaining of patrons, and others, not to mention that such projects are more sensible to worldwide

events, subjects to political, financial and legal risks, and are, therefore, less predictable^{9,42}.

Therefore, it is through scientific knowledge that Nurses are to confront situations, describe situations, describe experiences and discuss practices^{43,44}. Nursing researches, as in other areas of knowledge, are crucial for reflexions regarding the current state of health and of the contemporary situation of acting in Nursing^{43,44}.

The nurse, in his practice, routinely works with data which are collected and compiled for records and reports. If these data are submitted to an epidemiological analysis, they will be able to allow for a better understanding of health problems and assistance realities. Epidemiology contributes as a research instrument which allows for: the adequation of resources and services to answer the health demands and their determinants; for the conduction of objective communication among administrative and health professionals; and for the training of the Nurse for their practice^{1,2}.

On the other hand, the process since the production of the idea of a research to the publication in a qualified periodical is not simple. In the context of publications, the authors experience situations which work in detriment to the quality of the developed researches, such as the splitting of works in more than one, the short time for reflection, the publishing of non-innovative texts, and of works that generate superficial knowledge⁴⁵.

Above all, from a profession's scientific production, one expects to find a portrait of that profession. Nursing knowledge must not be reduced to something merely technical, or understood to be. The know-how of this field of knowledge includes behavioral and human relationship aspects; it is not merely comprised of sequentially executed routines. It is a field with a large scope, which considers health care itself, its organizational aspects, the context and structure of society^{10,44,45}.

It is important to highlight the results of this research may not be completely

generalized. In spite of being based in the sample of published works contained in two important bases for national scientific productions, such bases do not represent the total amount of works. The selected method, however, has shown itself to be appropriate for achieving the objectives of this study.

Another perspective for future investigations is to identify the use of life years lost adjusted by disabilities, a methodological refinement which considers morbidity and mortality components, which are also critical for the production of Nursing knowledge.

CONCLUSION

The descriptive analysis of publications were used in order to trace an overview, aiding in the identification of the behavior of epidemiological studies which use the PLYL index, and their connection with Nursing knowledge throughout the last 10 years.

The results suggest that a significant part of the researches developed so far include nurses among their authors. However, specific Nursing periodicals are not the ones which present the greatest number of this kind of publication, being surpassed when it comes to this by those related to Epidemiology and Collective Health.

It is possible to infer that the national scientific Nursing production about the theme can be increased. There was a low number of publications identified in the researched data bases (BVS/Lilacs and Scielo) and written in Portuguese. Therefore, the areas of the epidemiological aspects affect the state of the art of Nursing, considering the conception of Modern Nightingalean Nursing.

In face of these results, gaps can be found regarding the study settings, Brazilian places and study population, causes of death and social and health determinants related to the PLYL.

Other reviews should be conducted, in an ample scope of data bases, and analyzing the use of life years lost and adjusted by disabilities, considering the international productions and the quality and impact of

publications, in order for a better tracing of the state of the art of Nursing.

REFERENCES

- Almeida Filho N, Roquayol MZ. Análise de dados epidemiológicos. In: Almeida Filho N, Roquayol MZ, organizadores. *Epidemiologia & saúde*. 7ed. Rio de Janeiro (RJ): Medbook; 2013. p. 179-192.
- Costa AJL, Kale PL, Vermelho L. Indicadores de saúde. In: Medronho, RA. *Epidemiologia*. 2ed. São Paulo: Atheneu; 2009. p. 31-82.
- Rede Interagencial de Informação para a Saúde. Indicadores básicos para a saúde no Brasil: conceitos e aplicações [Internet]. 2ed. Brasília: OPAS; 2008 [Cited in: 01 jul 2016]. Available in: <http://www.ripsa.org.br/2014/10/30/indicadores-basicos-para-a-saude-no-brasil-conceitos-e-aplicacoes-livro-2a-edicao-2008-2/>.
- Romeder JM, McWhinnie JR. Le développement des années potentielles de vie perdues com meindicateur de mortalité prématurée. *Rev Épidémiol Santé Publique*. 1978; 26(1):97-115.
- Gardner JW, Sanborn JS. Years of potential life lost (YPLL) - what does it measure? *Epidemiology*. 1990; 1:322-9.
- McDonnell S, Vossberg K, Hopkins RS, Mittan B. Using YPLL in health planning. *Public Health*. 1998; 113:55-61.
- Carvalho V. Enfermagem e história da enfermagem: aspectos epistemológicos destacados na construção do conhecimento profissional. *Esc Anna Nery Rev Enferm*. [Internet]. 2007 [Cited in: 12 jun 2016]; 11(3): 500-8. Available in: <http://www.scielo.br/pdf/ean/v11n3/v11n3a16.pdf>. DOI: <http://dx.doi.org/10.1590/S1414-81452007000300016>.
- Fonseca RMG, Egry EY. *Epidemiologia social*. In: Garcia TR, Egry EY (orgs). *Integralidade da atenção no SUS e sistematização da assistência de enfermagem*. São Paulo: Artmed; 2010. p. 78-108.
- Silva LMS, Oliveira NRN, Frota MA, Fialho AVM. Pesquisa internacional em enfermagem: tendências temáticas e metodológicas. *Rev Bras Enferm*. [Internet]. 2008 [Cited in: 21 jun 2016]; 61(5):615-9. Available in: <http://www.scielo.br/pdf/reben/v61n5/a14v61n5.pdf>. DOI: <http://dx.doi.org/10.1590/S0034-71672008000500014>.
- Carvalho V. Linhas de pesquisa em enfermagem: destaques filosóficos e epistemológicos. *Esc Anna Nery Rev Enferm*. [Internet]. 2015 [Cited in: 22 jun 2016]; 68(4):723-9. Available in: <http://www.scielo.br/pdf/reben/v68n4/0034-7167-reben-68-04-0723.pdf>. DOI: <http://dx.doi.org/10.1590/00347167.20156804>.
- Mugnaini R. Caminhos para adequação da avaliação da produção científica brasileira: impacto nacional versus internacional. [tese]. São Paulo (SP): Universidade de São Paulo, Escola de Comunicações e Artes; 2006.
- Sun J, Wang MH, Ho YS. A historical review and bibliometric analysis of research on estuary pollution. *Mar Pollut Bull*. [Internet]. 2012 [Cited in: 20 jun 2016]; 64(1):13-21. Available in: http://ac.els-cdn.com/S0025326X11005741/1-s2.0-S0025326X11005741-main.pdf?_tid=9fb7e9e2-706f-11e6-9424-00000aab0f26&acdnat=1472753720_cc3db068af576153ebc4e49e0efe0ca7. DOI: [10.1016/j.marpolbul.2011.10.034](https://doi.org/10.1016/j.marpolbul.2011.10.034).
- Goldenberg S, Castro RCF, Azevedo FRM. Interpretação dos dados estatísticos da SciELO (Scientific Electronic Library Online). *Acta Cir Bras*. [Internet]. 2007 [Cited in: 14 mai 2016]; 22(1):1-7. Available in: <http://www.scielo.br/pdf/acb/v22n1/01.pdf>. DOI: <http://dx.doi.org/10.1590/S0102-86502007000100001>.
- Packer AL, Tardelli AO, Castro RCF. A distribuição do conhecimento científico público em informação, comunicação e informática em saúde indexado nas bases de dados MEDLINE e LILACS. *Ciênc Saúde Coletiva*. [Internet]. 2007 [Cited in: 20 jun 2016]; 12(3):587-99. Available in: <http://www.scielo.br/pdf/csc/v12n3/09.pdf>. DOI: <http://dx.doi.org/10.1590/S1413-81232007000300009>.
- Brasil. Lei n. 9.610, de 19 de fevereiro de 1998. Altera, atualiza e consolida a legislação sobre direitos autorais e dá outras providências [Internet]. D.O.U., Brasília, 20 fev 1998 [Cited in: 3 nov 2015]. Available in: http://www.planalto.gov.br/ccivil_03/leis/L9610.htm.
- Souza VMM, Arsky MLNS, Castro APB, Araujo WN. Anos potenciais de vida perdidos e custos hospitalares da leptospirose no Brasil. *Rev Saúde Pública*. [Internet]. 2011 [Cited in: 20 mai 2016]; 45(6):1001-8. Available in: <http://www.scielo.br/pdf/rsp/v45n6/3013.pdf>. DOI: <http://dx.doi.org/10.1590/S0034-89102011005000070>.
- Silva LS, Menezes MLN, Lopes CLA, Corrêa MSM. Anos potenciais de vida perdidos por mulheres vítimas de homicídio na cidade do Recife, Pernambuco, Brasil. *Cad Saúde Pública*. [Internet]. 2011 [Cited in: 13 mai 2016]; 27(9):1721-30. Available in: <http://www.scielo.br/pdf/csp/v27n9/06.pdf>.

- DOI: <http://dx.doi.org/10.1590/S0102-311X2011000900006>.
18. Pereira MSLC, Ferreira LOC, Silva GA, Lucio PS. Evolução da mortalidade e dos anos potenciais e produtivos de vida perdidos por câncer de mama em mulheres no Rio Grande do Norte, entre 1988 e 2007. *Epidemiol Serv Saúde*. [Internet]. 2011 [Cited in: 15 abr 2016]; 20(2):161-72. Available in: <http://scielo.iec.pa.gov.br/pdf/ess/v20n2/v20n2a05.pdf>. DOI: <http://dx.doi.org/10.5123/S1679-49742011000200005>.
19. Camargo FC, Iwamoto HH, Oliveira LP, Oliveira RC. Violência autoinfligida e anos potenciais de vida perdidos em Minas Gerais, Brasil. *Texto & Contexto Enferm*. [Internet]. 2011 [Cited in: 23 jun 2016]; 20(Esp):100-7. Available in: <http://www.scielo.br/pdf/tce/v20nspe/v20nspea13.pdf>. DOI: <http://dx.doi.org/10.1590/S0104-07072011000500013>.
20. Oliveira AF, Valente JG, Leite IC. Fração da carga global do diabetes mellitus atribuível ao excesso de peso e à obesidade no Brasil. *Rev Panam Salud Publica*. [Internet]. 2010 [Cited in: 16 jun 2016]; 27(5):338-44. Available in: <http://www.scielosp.org/pdf/rpsp/v27n5/a03v27n5>. DOI: <http://dx.doi.org/10.1590/S1020-49892010000500003>.
21. Arnold MW, Silva MA, Falbo Neto GH, Haimenis RP. Anos potenciais de vida perdidos por mulheres em idade fértil na cidade do Recife, Pernambuco, vítimas de morte por homicídio nos anos de 2001 e 2002. *Rev Bras Saúde Mater Infant*. [Internet]. 2007 [Cited in: 18 may 2016]; 7(supl.1):S23-S28. Available in: <http://www.scielo.br/pdf/rbsmi/v7s1/a03v7s1.pdf>. DOI: <http://dx.doi.org/10.1590/S1519-38292007000600003>.
22. Santana VS, Araújo-Filho JB, Silva M, Albuquerque-Oliveira PR, Barbosa-Branco A, Nobre LCC. Mortalidade, anos potenciais de vida perdidos e incidência de acidentes de trabalho na Bahia, Brasil. *Cad Saúde Pública*. [Internet]. 2007 [Cited in: 25 apr 2016]; 23(11):2643-52. Available in: <http://www.scielo.br/pdf/csp/v23n11/11.pdf>. DOI: <http://dx.doi.org/10.1590/S0102-311X2007001100012>.
23. Prata MCS, Nichiata LYI, Takahashi RF, Bertolozzi MR. Vulnerabilidade de mulheres à AIDS: estudo da mortalidade segundo anos potenciais de vida perdidos. *Mundo Saúde*. [Internet]. 2009 [Cited in: 20 jul 2016]; 33(4):440-8. Available in: http://www.saocamilosp.br/pdf/mundo_saude/70/440a448.pdf.
24. Araújo EM, Costa MCN, Hogan VK, Mota ELA, Araújo TM, Oliveira NF. Diferenciais de raça/cor da pele em anos potenciais de vida perdidos por causas externas. *Rev Saúde Pública*. [Internet]. 2009 [Cited in: 20 may 2016]; 43(3):405-12. Available in: <http://www.scielo.br/pdf/rsp/v43n3/7046.pdf>. DOI: <http://dx.doi.org/10.1590/S0034-89102009005000021>.
25. Lucena RM, Sousa JL. Anos potenciais de vida perdidos (APVP) por AIDS: Pernambuco, 1996 e 2005. *DST, J Bras Doenças Sex Transm*. [Internet]. 2009 [Cited in: 20 jul 2016]; 21(3):136-42. Available in: <http://www.dst.uff.br/revista21-3-2009/7-Anos-Potenciais-de-Vida.pdf>.
26. Camargo FC, Hemiko H. Vítimas fatais e anos de vida perdidos por acidentes de trânsito em Minas Gerais, Brasil. *Esc Anna Nery Rev Enferm*. [Internet]. 2012 [Cited in: 20 apr 2016]; 16(1):141-6. Available in: <http://www.scielo.br/pdf/ean/v16n1/v16n1a19.pdf>. DOI: <http://dx.doi.org/10.1590/S1414-81452012000100019>.
27. Tauil MC, Amorim TR, Pereira GFM, Araújo WN. Mortalidade por hepatite viral B no Brasil, 2000-2009. *Cad Saúde Pública*. [Internet]. 2012 [Cited in: 20 jun 2016]; 28(3):472-8. Available in: <http://www.scielo.br/pdf/csp/v28n3/07.pdf>. DOI: <http://dx.doi.org/10.1590/S0102-311X2012000300007>.
28. Mota DM, Melo JRR, Freitas DRC, Machado M. Perfil da mortalidade por intoxicação com medicamentos no Brasil, 1996-2005: retrato de uma década. *Ciênc Saúde Coletiva*. [Internet]. 2012 [Cited in: 19 jun 2016]; 17(1):61-70. Available in: <http://www.scielo.br/pdf/csc/v17n1/a09v17n1.pdf>. DOI: <http://dx.doi.org/10.1590/S1413-81232012000100009>.
29. Costa FAMM, Trindade RFC, Santos CB. Mortes por homicídios: série histórica. *Rev Latinoam Enferm*. [Internet] 2014 [Cited in: 20 jun 2016]; 22(6):1017-25. Available in: <http://www.revistas.usp.br/rlae/article/view/99986/98538>. DOI: <http://dx.doi.org/10.1590/0104-1169.3603.2511>.
30. Sousa GS, Magalhães FB, Gama IS, Lima MVN, Almeida RLF, Vieira LJES, et al. Determinantes sociais e sua interferência nas taxas de homicídio em uma metrópole do nordeste brasileiro. *Rev Bras Epidemiol*. [Internet]. 2014 [Cited in: 11 jun 2016]; 17(supl. 2):194-203. Available in: http://www.scielo.br/pdf/rbepid/v17s2/pt_141

- 5-790X-rbepid-17-s2-00194.pdf. DOI: http://www.scielo.br/pdf/csc/v20n3/pt_1413-8123-csc-20-03-00641.pdf.
31. Cardoso EM. Morbimortalidade relacionada ao trabalho no estado do Amazonas, Brasil, 2000-2011. *Epidemiol Serv Saúde*. [Internet]. 2014 [Cited in: 22 jun 2016]; 23(1):143-53. Available in: <http://www.scielo.br/pdf/ress/v23n1/2237-9622-ress-23-01-00143.pdf>. DOI: <http://dx.doi.org/10.5123/S1679-49742014000100014>.
32. Almeida APB, Lima MLC, Oliveira Junior FJM, Abath MB, Lima MLLT. Anos potenciais de vida perdidos por acidentes de transporte no Estado de Pernambuco, Brasil, em 2007. *Epidemiol Serv Saúde*. [Internet]. 2013 [Cited in: 19 may 2016]; 22(2):235-42. Available in: <http://scielo.iec.pa.gov.br/pdf/ess/v22n2/v22n2a05.pdf>. DOI: <http://dx.doi.org/10.5123/S1679-49742013000200005>.
33. Amaral NA, Amaral CA, Amaral TLM. Mortalidade feminina e anos de vida perdidos por homicídio/agressão em capital brasileira após promulgação da Lei Maria da Penha. *Texto & Contexto Enferm*. [Internet]. 2013 [Cited in: 14 apr 2016]; 22(4):980-8. Available in: <http://www.scielo.br/pdf/tce/v22n4/14.pdf>. DOI: <http://dx.doi.org/10.1590/S0104-07072013000400014>.
34. Moura LA, Cruz NM, Oliveira LCA, Gurgel PKF, Teixeira MC, Soares WLP. Anos potenciais de vida perdidos por causas externas no Rio Grande do Norte, 2003 a 2012. *UNOPAR Cient Ciênc Biol Saúde*. 2015; 17(2):101-6.
35. Campos MR, Doellinger VR, Mendes LVP, Costa MFS, Pimentel TG, Schramm JMA. Diferenciais de morbimortalidade por causas externas: resultados do estudo Carga Global de Doenças no Brasil, 2008. *Cad Saúde Pública*. [Internet]. 2015 [Cited in: 20 jun 2016]; 31(1):1-17. Available in: http://www.scielo.br/pdf/csp/v31n1/pt_0102-311X-csp-31-01-00121.pdf. DOI: <http://dx.doi.org/10.1590/0102-311X00191113>.
36. Andrade-Barbosa TL, Xavier-Gomes LM, Barbosa VA, Caldeira AP. Mortalidade masculina por causas externas em Minas Gerais, Brasil. *Ciênc Saúde Coletiva*. [Internet]. 2013 [Cited in: 26 jun 2016]; 18(3):711-9. Available in: <http://www.scielo.br/pdf/csc/v18n3/17.pdf>. DOI: <http://dx.doi.org/10.1590/S1413-81232013000300017>.
37. Alves CG, Morais Neto OL. Tendência da mortalidade prematura por doenças crônicas não transmissíveis nas unidades federadas brasileiras. *Ciênc Saúde Coletiva*. [Internet]. 2015 [Cited in: 11 jun 2016]; 20(3):641-54. Available in: http://www.scielo.br/pdf/csc/v20n3/pt_1413-8123-csc-20-03-00641.pdf. DOI: <http://dx.doi.org/10.1590/1413-81232015203.15342014>.
38. Malta DC, Moura L, Prado RR, Escalante JC, Schmidt MI, Duncan BB. Mortalidade por doenças crônicas não transmissíveis no Brasil e suas regiões, 2000 a 2011. *Epidemiol Serv Saúde*. [Internet]. 2014 [Cited in: 17 jun 2016]; 23(4):5995-608. Available in: <http://scielo.iec.pa.gov.br/pdf/ess/v23n4/v23n4a02.pdf>. DOI: <http://dx.doi.org/10.5123/S1679-49742014000400002>.
39. Souza ER, Melo AN, Silva JG, Franco SA, Alazraqui M, González-Pérez GJ. Estudo multicêntrico da mortalidade por homicídios em países da América Latina. *Ciênc Saúde Coletiva*. [Internet]. 2012 [Cited in: 11 apr 2016]; 17(12):3183-93. Available in: <http://www.scielosp.org/pdf/csc/v17n12/04.pdf>. DOI: <http://dx.doi.org/10.1590/S1413-81232012001200004>.
40. Amadei JRP, Torkomian ALV. As patentes nas universidades: análise dos depósitos das universidades públicas paulistas (1995-2006). *Ci Inf*. [Internet]. 2009 [Cited in: 21 mai 2016]; 38(2):9-18. Available in: <http://www.scielo.br/pdf/ci/v38n2/01.pdf>. DOI: <http://dx.doi.org/10.1590/S0100-19652009000200001>.
41. Cabral IE, Tyrrel MAR. Pesquisa em enfermagem nas Américas. *Rev Bras Enferm*. [Internet]. 2010 [Cited in: 20 jun 2016]; 63(1):104-10. Available in: <http://www.scielo.br/pdf/reben/v63n1/v63n1a17.pdf>. DOI: <http://dx.doi.org/10.1590/S0034-71672010000100017>.
42. Watanuki HM, Nadea J, Carvalho MM, Moraes RO. Gestão de projetos internacionais: um estudo bibliométrico. *Gest Prod*. [Internet]. 2014 [Cited in: 14 mar 2016]; 21(3): 660-75. Available in: <http://www.scielo.br/pdf/gp/v21n3/v21n3a16.pdf>. DOI: <http://dx.doi.org/10.1590/0104-530X394>.
43. Enders BC, Ferreira PBP, Monteiro AI. A ciência-ação: fundamentos filosóficos e relevância para a enfermagem. *Texto & Contexto Enferm*. [Internet]. 2010 [Cited in: 21 jun 2016]; 19(1):161-7. Available in: <http://www.scielo.br/pdf/tce/v19n1/v19n1a19.pdf>. DOI: <http://dx.doi.org/10.1590/S0104-07072010000100019>.
44. Egry EY. Pesquisar é preciso? Avaliar não... *Rev Esc Enferm USP*. [Internet]. 2009 [Cited in: 20 jun 2016]; 43(1):8-13. Available in:

<http://www.scielo.br/pdf/reeusp/v43n1/01.pdf>.
DOI: <http://dx.doi.org/10.1590/S0080-62342009000100001>
45. Silva MJP, Egry EY, Ângelo M, Barbosa MAM, Sousa RMC, Castilho V, et al. Produção do conhecimento em enfermagem: da idéia da pesquisa à publicação em periódico qualificado.

Rev Esc Enferm USP. [Internet]. 2009 [Cited in: 23 jun 2016]; 43(Esp. 2):1347-51. Available in: <http://www.scielo.br/pdf/reeusp/v43nspe2/a35v43s2.pdf>. DOI: <http://dx.doi.org/10.1590/S0080-62342009000600035>.

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