

Functional health literacy and adherence to the medication in older adults: integrative review

Letramento funcional em saúde e adesão à medicação em idosos: revisão integrativa

Letra funcional en salud y adhesión a la medicación en ancianos: revisión integradora

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ABSTRACT

Objective: to characterize the national and international scientific production on the relationship of Functional Health Literacy and the adherence to the medication in older adults. **Method:** integrative review of literature, searching the following online databases: Scientific Electronic Library Online (SCIELO); Latin American and Caribbean Health Sciences Literature (LILACS); Medical Literature Analysis and Retrieval System Online (MEDLINE); and Cumulative Index to Nursing & Allied Health Literature (CINAHL), in June 2016. We selected 7 articles that obeyed the inclusion criteria. **Results:** all articles are from the USA. The inappropriate Functional Health Literacy affects the non-adherence to medication; however, there are several strategies and interventions that can be practiced to change this relationship. **Conclusion:** nursing needs to explore further this theme, since it can exert a differentiated care for adherence to medication in older adults, considering the literacy.

Descriptors: Older adult; Adherence to Medication; Health Literacy; Nursing; Health of Older Adults.

RESUMO

Objetivo: caracterizar a produção científica nacional e internacional sobre a relação do Letramento Funcional em Saúde e a adesão à medicação em idosos. **Método:** revisão integrativa da literatura, com busca nas bases de dados on-line: Scientific Electronic Library Online (SCIELO); Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS); Medical Literature Analysis and Retrieval System Online (MEDLINE); e Cumulative Index to Nursing & Allied Health Literature (CINAHL), no mês de junho de 2016. Foram selecionados 7 artigos que obedeceram aos critérios de inclusão. **Resultados:** todos os artigos são internacionais e originários dos EUA. O Letramento Funcional em Saúde inadequado influencia para a não adesão à medicação, porém há diversas estratégias e intervenções que podem ser realizadas na prática para modificar essa relação. **Conclusão:** a enfermagem precisa explorar mais essa temática, visto que pode exercer um cuidado diferenciado para a adesão à medicação em idosos, levando em conta o letramento.

Descritores: Idoso; Adesão à Medicação; Alfabetização em Saúde; Enfermagem; Saúde do Idoso.

RESUMEN

Objetivo: caracterizar la producción científica nacional e internacional sobre la relación de la Letra Funcional en Salud y la adhesión a la medicación en ancianos. **Método:** revisión integradora de la literatura, con búsqueda en las bases de datos on-line: Scientific Electronic Library Online (SCIELO); Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS); Medical Literature Analysis and Retrieval System Online (MEDLINE); y Cumulative Index to Nursing & Allied Health Literature (CINAHL), en el mes de junio de 2016. Fueron seleccionados 7 artículos que han cumplido los criterios de inclusión. **Resultados:** todos los artículos son internacionales y originarios de EUA. La Letra Funcional en Salud inadecuada influencia para la adhesión a la medicación, sin embargo hay varias Estrategias e intervenciones que pueden ser realizadas en la práctica para modificar esa relación. **Conclusión:** la enfermería necesita explorar más esa temática, ya que puede ejercer un cuidado diferenciado para la adhesión a la medicación en ancianos, teniendo en cuenta la letra.

Descriptor: Anciano; Adhesión a la Medicación; Alfabetización en Salud; Enfermería; Salud del Anciano.

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INTRODUCTION

Population aging is a worldwide phenomenon that has been growing significantly in Brazil. The proportion of senior citizens aged 60 years or older went from 9.7% in 2004 to 13.7% in 2014⁽¹⁾. A quick process of population aging means relative growth of chronic conditions, especially chronic non-communicable diseases (NCDs), because they affect mostly the older adults⁽²⁾. Nowadays, the NCDs constitute the health problem with the most relevant magnitude and account for over 70% of the causes of deaths in Brazil⁽³⁾.

The NCDs are those that contribute the most to the increase in the number of medicines to be used by older adults, since they require extended treatment and with several different medicines at the same time, which makes polypharmacy easier⁽⁴⁾. Polypharmacy is usually defined as the use of many medicines simultaneously and, in older adults, is very common⁽⁵⁾.

Adherence to prescribed medicine treatment is a desirable and expected behavior for people who exhibit chronic conditions. The World Health Organization (WHO) defines adherence as the magnitude in which the behavior of an individual, as to the use of medicines, following a diet and/or executing lifestyle changes, corresponds to the recommendations of a health care professional⁽⁶⁾.

Adherence to the medication specifically refers to the prescribed drug therapy follow-up⁽⁷⁾. This is a complex and multidetermined phenomenon that depends on factors of diverse etiology. Among the elderly, there are significant factors, such as the decline of cognitive function, failure of self-management, beliefs and attitudes, lack of access to medicines (mainly due to the cost), severity of condition, other related diseases, presence of comorbidities and polypharmacy⁽⁸⁻⁹⁾.

Another important factor that has a direct relation with adherence to medication is Functional Health Literacy (FHL). The FHL is the cognitive ability to understand, interpret and apply written or spoken information about health, so that a person with a degree of satisfactory literacy would have better health condition than an individual with limited literacy level⁽¹⁰⁾.

The low FHL implies the difficulty of self-care, even more when in the presence of chronic damage and in older adults. The low FHL is an important cause of non-adherence to the medication in older adults. An older adult with low FHL can, for example, have difficulties to interpret or he can fail to understand instructions for taking medications⁽¹¹⁾.

The impact of low FHL on adherence is so significant that, in the United States of America (USA), it has been identified as one of the 10 priorities for improving adherence to medicines by the National Council on Patient Information and Education⁽¹²⁾.

The non-adherence to drug treatment is the main cause for the failings in the treatment, the irrational use of medicines and aggravations in the pathological process⁽¹³⁾. In the elderly, it is related to the increase in the number of doctor visits, hospitalizations, morbidity and mortality rates, causing also high expenses on public health, bringing negative risks to the health and affecting the lives of older people, their families and society⁽¹⁴⁾.

Thus, it is relevant to know the relationship between the FHL and adherence to medication in older adults, so nurses and other professionals promote interventions that favors the adherence, in

accordance with the specificities of aging and taking into account the factors that affect it. To this end, we have as guiding question: how is it characterized the national and international scientific production on the relationship between the FHL and the adherence to the medication in older adults? This study aims to characterize the national and international scientific production on the relationship of the FHL and the adherence to the medication in older adults.

METHOD

This study is an Integrative Review (IR) of literature. The IR is a method that aims to gather and summarize scientific knowledge already produced on the investigated subject, allowing to search, evaluate and synthesize the evidence available in order to contribute to the development of the knowledge regarding the theme⁽¹⁵⁾.

This IR consisted of six steps: identification of the theme and selection of the hypothesis or guiding question; establishment of criteria for inclusion and exclusion of studies/sampling or search in the literature; definition of the information to be extracted or categorization of studies; assessment of studies included in IR; interpretation of results; presentation of the review⁽¹⁵⁾.

After the elaboration of the guiding question, it were elected as inclusion criteria: full articles available online that cover the subject of the study; abstract presentation for first assessment; Brazilian or foreign origin, in Portuguese, English and Spanish languages, undated. As a criterion of exclusion, we adopted: articles whose age of participants was less than 60 years old. Repeated studies on more than one database were counted only once.

The search was conducted in the following online databases: Scientific Electronic Library Online (SCIELO); Latin American and Caribbean Health Sciences Literature (LILACS); Medical Literature Analysis and Retrieval System Online (MEDLINE); and Cumulative Index to Nursing & Allied Health Literature (CINAHL), through the periodicals portal Capes. Data collection took place in June 2016.

The keywords used in the search are present in the list of Health Sciences Descriptors (DeCS): "idoso"; "adesão à medicação"; "alfabetização em saúde"; "aged"; "medication adherence"; "health literacy." Specific search strategies were used in accordance with the characteristics of each base.

The search was carried out with the initial application of filters in databases, to meet some of the criteria for inclusion: full text, abstract and language available for first assessment. In SCIELO and LILACS, initially the search was carried out with the keywords "aged," "health literacy" and "medication adherence" with the Boolean operator *and*, and "idoso," "alfabetização em saúde" and "adesão à medicação" with the Boolean operator *and*, resulting in no article. So, we decided to use in these bases only the keywords "idoso" and "alfabetização em saúde" with the Boolean operator *and*, resulting in one and five articles, respectively, and "aged" and "health literacy" with the Boolean operator *and*, resulting in 14 and nine articles, respectively. In MEDLINE and CINAHL, the search was carried out with the keywords "idoso," "alfabetização em saúde" and "adesão à medicação," which resulted in no article; and with the keywords "aged," "health literacy" and "medication adherence" with the Boolean operator *and*, resulting in 98 and 31 articles, respectively.

For the selection of articles, it were held the reading of the abstracts and, whenever the title and abstract of the studies

were not clear, we proceeded to the reading of the article in its entirety, in order to avoid the exclusion of important studies and to verify if the article answered to the objectives of this RI. From this analysis, we obtained as final sample seven articles (four of MEDLINE and three of CINAHL; no articles of SCIELO and LILACS met the goals of the IR). The decision about the relevance of the documents selected for analysis depended on, also, clarity and scientific consistency in which, in the content of each text, it were described the data concerning the methodology, to the participants and the results.

We drafted a data collection form that has been filled for each article, with the information: title; periodical, country of origin, year of publication; authors, area of practice; type and outline of the study; goal; place of study; participants/sample; main results; conclusions. A descriptive analysis was performed from that form and from the reading of information contained in the articles.

To learn about the different types of production of knowledge present in the selected articles, we used seven levels of evidence: Level I: Evidence from relevant Systematic Reviews or Meta-analysis of Randomized Controlled Trials (RCTs), or evidence from clinical practice Guidelines based on systematic reviews of RCTs; Level II: Evidence obtained by means of at least one RCT; Level III: Evidence obtained by means of a controlled study without randomization; Level IV: Evidence obtained by means of case-control or cohort; Level V: Evidence obtained by means of systematic reviews of qualitative and descriptive studies; Level VI:

Evidence obtained by means of a single descriptive or qualitative study; Level VII: Evidence obtained by means of the opinion of authors and/or reports of expert panels. Whereas this classification is based on the type of study outline and on its ability to claim cause and effect, levels I and II are considered strong evidence, III and IV are moderate, and V to VII are weak⁽¹⁶⁾.

Ethical issues and authorship principles were respected and the works used in this study had their authors cited and referenced. Due to the nature of the bibliographical research, there was no need for approval in the Committee of Ethics in Research.

RESULTS

The sample of this IR was composed of seven articles, all international and originating in the USA. As shown in the Chart 1, 4 (57.1%) articles were published in the last five years.

As for the type of study, one was a review of the literature, another was a theoretical study and the other five articles were quantitative research (one randomized controlled trial, one descriptive exploratory, three prospective cohort studies). Regarding the level of evidence, one study has evidence level II, considered strong; three articles have evidence level IV, moderate; the other studies have weak evidence level. Of the seven, three articles have been developed by multiprofessional teams (nursing, sociology, and medicine in one article, medicine and pharmacy in two articles), three, only by doctors and one article by pharmacists.

Chart 1 – Characterization of selected articles about the title, type of study, objectives, periodical, year of publication, database and area of expertise of the authors, Rio Grande do Sul, Brazil, 2016

No.	Title/Reference number(*)	Type of study	Objective (s)	Periodical/Year of publication/Database	Area of expertise
1	Assessing medication adherence in the elderly ⁽¹⁷⁾ .	Literature review	To describe the methods to assess adherence to medication in older adults.	<i>Drugs Aging</i> . Texas/USA. 2005. CINAHL	Pharmacy, Medicine
2	Self-reported medication use in community-residing older adults: a pilot study ⁽¹⁸⁾ .	Descriptive-exploratory	To evaluate and report the use of medicines and potential problems arising out of such use in the older adults receiving assistance of <i>Eldercare</i> program in North Carolina.	<i>The American Journal of Geriatric Pharmacotherapy</i> . Chapel Hill, North Carolina/USA. 2005. MEDLINE	Pharmacy
3	Patients' health literacy and experience with instructions influence preferences for heart failure medication instructions ⁽¹⁹⁾ .	Randomized controlled trial	To investigate if patients with CHF preferred standard instructions of a pharmacist or patient-centric formulated instructions, and if these preferences varied with the goals of the patient to use the instructions, as well as differences related to demographics, experience with instructions, FHL and general cognitive skills.	<i>Journal of aging and health</i> . Indianapolis, Indiana/USA. 2007. CINAHL	Pharmacy, Medicine
4	Intervening at the intersection of medication adherence and health literacy ⁽²⁰⁾ .	Theoretical study	To identify/describe interventions for improving adherence to medication related to the FHL for the elderly population in the United States.	<i>The Journal for Nurse Practitioners</i> . Georgia/USA. 2014. CINAHL	Nursing, Sociology, Medicine
5	The association of health literacy with illness and medication beliefs among older adults with asthma ⁽²¹⁾ .	Prospective cohort	To test the hypothesis that low FHL is associated with the inaccurate beliefs about medication and asthma.	<i>Patient Education and Counseling</i> . New York and Chicago/USA. 2013. MEDLINE	Medicine
6	Self Management Behaviors in Older Adults with Asthma: Associations with Health Literacy ⁽²²⁾ .	Prospective cohort	To analyze the behavior of self-management, including adherence to medications and inhalation technique in older adults with asthma and its association with the FHL.	<i>J Am Geriatr Soc</i> . New York and Chicago/USA. 2014. MEDLINE	Medicine
7	Health literacy, cognitive function, proper use, and adherence to inhaled asthma controller medications among older adults with asthma ⁽²³⁾ .	Prospective cohort	To investigate the degree of cognitive skills, to associate with FHL and use of asthma-related drugs in older adults.	<i>Chest</i> . New York and Chicago/USA. 2015. MEDLINE	Medicine

Note: CHF: Congestive Heart Failure; FHL: Functional Health Literacy.

All articles of empirical research (five articles) used the Short-Test of Functional Health Literacy in Adults (S-TOFHLA) to assess the level of FHL of older adults⁽²⁴⁾. To analyze adherence to medication, one study used a test that estimates the ability to read and understand a standard medication label⁽²⁵⁾, two studies used the Medication Adherence Reporting Scale (MARS)⁽²⁶⁾ and one study used the Morisky scale⁽²⁷⁾. One of the studies with sample has not evaluated specifically the adherence, but related it to the adherence on the results of the study.

In studies that made the application of instruments to assess adherence to medication, the prevalence of adherence to medication ranged from 38% to 48%. On the other hand, the prevalence of inadequate FHL ranged from 19% to 44%.

As for the relationship of the FHL and adherence to medication, the following results have been presented: the first article discusses in its review that the FHL in older adults tends to adversely influence adherence to medication, regardless of demographic factors such as gender, race, ethnicity, cognition, visual acuity and education. It is recommended that multidisciplinary actions to check the FHL and from then guiding the patient according to their specificities, aiming at adherence⁽¹⁷⁾. The second article found FHL inadequate and low adherence to medication, but found no significant association between the two⁽¹⁸⁾.

The third article confirms that the FHL influences on how older people should receive instructions for medications, in which people with inadequate FHL require interventions more individualized to have good adherence to medication⁽¹⁹⁾. The fourth article approaches the low FHL as a major factor that leads to non-adherence, putting the subject as research priority of various departments of health and public policy in the U.S., and proposing eight interventions to improve adherence to medication, with focus in FHL⁽²⁰⁾.

The fifth article states that the FHL is directly related to inaccurate beliefs about medicines for asthma, influencing the non-adherence to medication⁽²¹⁾. Finally, the sixth⁽²²⁾ and seventh articles found that individuals with inadequate FHL have low adherence to medication and worst self-care for asthma⁽²³⁾.

As for the strategies and interventions related to adherence and to the FHL, the following results were obtained: first, it was brought the importance of education, communication and patient guidance, in addition to the use of methods more suitable in interventions, such as using proper language, simplifying reading materials and adapting care as needed and resources of each individual⁽¹⁹⁻²³⁾.

The articles also bring the importance of adapting such care, according to the specificities of the older adult and individual needs of each patient, taking into account his family, his preferences and his culture⁽¹⁹⁻²¹⁾. It is also highlighted the importance of multi/interdisciplinary teamwork and the importance of the link and a good relationship between the professional and the patient^(20,22).

Certain strategies are even addressed, like strategies for monitoring and assessment of both the adherence to the medication and the FHL, the previous knowledge of the patient, through the application of methods, instruments or questionnaires, in clinical practice, and regular monitoring, always encouraging self-care^(17,19-20,22).

Two articles highlight the importance of further research to identify more accurate methods of evaluation, the exploration of the factors that lead to non-adherence and the inadequate FHL, as well as the problems with drug therapy⁽¹⁷⁻¹⁸⁾.

DISCUSSION

All papers studied in this IR were of foreign origin, which demonstrates the lack of national studies involving this topic, needing to be further explored in Brazil. Only one study had nurses as authors, showing that nursing needs to engage more in the exploration of this theme, research and care in adherence to medication and the FHL, from the overall assessment of the patient to guidelines, which can be accomplished through the Nursing Process⁽²⁸⁾.

It is also noteworthy the gap of time between the articles in this IR. The theme was explored in the years 2004 to 2007 and stayed for six years without studies, having returned the interest in 2013, with 57.1% of articles published after that date. This finding shows the increase of recent interest for the thematic and the need for further research.

As for the instruments used to assess the FHL and adherence to medication, the most used one to evaluate the FHL was the S-TOFHLA, which is a brief version of the instrument Test of Functional Health Literacy in Adults (TOFHLA). It measures the ability of patients to read and understand health-related materials. It is shorter, easy to administer and with good reliability⁽²⁴⁾.

The S-TOFHLA has four numeric items and two passages of text with 36 items, with maximum time of duration of the application of 12 minutes. It is established a scoring and a cohort system to identify if FHL is suitable or not. The test also establishes levels of FHL according to the scoring: inadequate, marginal and suitable. It is indicated to be used by professionals who work with health education⁽²⁴⁾. This instrument can be easily used by nurses, so that the care and the guidelines can be performed in a specific way and adapted according to the FHL for each patient⁽¹⁷⁾.

To assess adherence to medication, one of the instruments used were the Medication Adherence Reporting Scale for Asthma (MARS-A)⁽²⁶⁾. This tool is a measure of 10 items, validated, which was adapted to verify self-report of adherence to inhaled corticosteroids, which goes according to the objectives of the studies surveyed, related to asthma⁽²²⁻²³⁾. It can be a tool used by nurses to aid in research or clinical practice in asthma.

Another scale used in the studies was the instrument Morisky⁽²⁷⁾. This instrument is for self-report of adherence, widely used and known worldwide, which allows extensive and regular application, and that fits in various clinical settings. This is a measure of four items that use closed dichotomous questions (yes or no), validated with hypertensive patients that made continuous use of medicines. The score ranges from zero to four, with zero representing the non-adherence and four representing the adherence to the medication.

Despite being a widely used test, it has its limitations, such as, for example, the dichotomous way of measure for adherence, that can often make it less sensitive on the different situations in terms of adherence behaviors experienced by individuals⁽²⁹⁾.

As for the prevalence of adherence to medication, in the studies of this IR it ranged from 38% to 48%. In Brazil, we

have lower percentages of adherence. In some studies that used similar instruments to measure adherence, it varied between 26.7% and 50.9%^(13,30,31). Given this result, it emerges the importance of developing actions to stimulate the adherence to medication that can be taken by health professionals.

Regarding the relation to the prevalence of inadequate FHL, in Brazil we perceive higher percentages than in studies of this RI, which went from 19% to 44%. In studies with the elderly, the percentage was 51.6%⁽³²⁾, and in adults, this percentage was 68.1%⁽³³⁾. This can be explained since the samples studied had different characteristics of the studies of this IR, in relation to income and education, which are factors that influence directly on the results of FHL⁽³⁴⁾.

An important result was that patients with limited FHL prefer receiving patient-centric instructions, i.e., more specific and that take into account their capacities and specificities⁽¹⁹⁾. This refers to the importance of health education in the care for the older adults, in which knowing the context and the specific nature of each individual is essential to achieve a more focused guidance, that favors adherence to medication⁽³⁵⁾.

FHL was also related to inappropriate beliefs about diseases and treatments, which can bring adverse consequences for older adults, as the ignorance of care in the treatment regimen and incapacity of self-care, generating the non-adherence. It is essential to know the beliefs of patients, to try to modify them when interfering in therapy⁽²¹⁾.

Among the strategies and interventions related to the FHL and adherence in studies of this IR, it is highlighted the health education, communication, care according to the specificities of the elderly, the bond and the professional-client relationship, the teamwork, the assessment of the FHL and the adherence to the medication in clinical practice, as well as the need for research in the area.

These are strategies that can easily be used by nurses, since it has as its essence the care, direct contact with patients, which grants people the recognition of characteristics, contexts and diversity present in the life of the older adult, in addition to the influences of the environment. These strategies, in addition, do not require high costs or advanced technologies, and can be easily used.

Considering this, the nurse can associate in his individual and team clinical practice these actions to know the FHL and the adherence. These actions can include the application of instruments to check the FHL and adherence, that can be applied quickly and are easy to understand^(17,24,27).

Another essential nursing care strategy to promote adherence is health education, where the nurse should provide a humane relationship with the patient, such as manufacturing and collaborative action, for an exchange of experiences and information and not only an informative act out of touch with reality. These actions should promote the development of autonomy and the co-responsibility of the care⁽³⁵⁾.

The nurse needs to know the older adults, exploring their qualities and their difficulties, to know in which critical points can he act, be updated to share information and establish a trust relationship⁽³⁶⁾. In this way, he can contribute to the adherence to the medication.

The need for research involving the theme is emerging, as there are significant differences regarding the factors that influence in adherence, be they socioeconomic, demographic, of the treatments, of health systems of national studies as for the international⁽⁶⁾. Exploring these factors, the reasons that lead to non-adherence, the relationship with the FHL may extend the knowledge so that it can provide more specific interventions, which are incorporated in practice.

Limitations of the study

The selection of some databases can be considered a limitation to this study, since articles addressing the topic could be in other bases than those selected in this review. However, it were chosen the main bases of importance to nursing.

Contributions to the field of nursing, health or public policy

One must take into account that the FHL influences directly to the non-adherence to medication, highlighting the importance of the nurse in emerging more in research, in order to know more accurately the FHL and adherence to the medication levels of the Brazilian population, especially in older adults. In practice, with application of instruments to verify adherence and the FHL, also using the nursing process, it is possible to know the context and specificities of the patient, in addition to planning health education actions, which could contribute to the adherence to the medication. Still in education, it can get more qualified professionals about the FHL and adherence to medication. The study also helps to direct the attention of managers about the importance of creating public policy in the context of these themes in Brazil.

CONCLUSION

This IR has met the scientific literature relating to adherence to medication and the FHL in older adults, realizing that there are still very few studies related to this theme, highlighting the need for more research, especially in Brazil.

The IR has demonstrated through its results the inappropriate FHL influence on the non-adherence to medication and that there are several strategies and interventions, both in professional practice as research, that need actions. Among them, education, communication, health care according to the specificities of older adults, the bond and the professional-client relationship, the teamwork, the assessment of the FHL and the adherence to medication in clinical practice, as well as the need for research in the area.

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