

Critical reading competence in family medicine residents

Competencia de lectura crítica en residentes de medicina familiar

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Summary: The specialist doctor currently has the search, analysis and discussion of information as part of the discharge profile. Reading comprehension is generated after the relationship of the text with the reader and is responsible for building knowledge by relating what has been read and what has been learned. We set out to evaluate the level of critical reading competence in family medicine (MF) resident physicians to evaluate whether they have critical reading competence. For this, Campos' critical reading evaluation instrument was applied. 63% of MF residents had a medium level of reading comprehension. No statistical significance was found when correlating the variables reading comprehension and sex or when correlating reading comprehension and age. We conclude that the critical reading competence found in the resident doctors of the unit studied is of a medium level, being higher than the level found in other studies under similar conditions. It is necessary to establish educational strategies that improve critical reading skills of medical articles.

Keywords: Critical reading; Family Medicine Residents.

Resumen: El médico especialista tiene actualmente como parte del perfil de egreso la búsqueda, análisis y discusión de la información. La comprensión lectora se genera tras la relación del texto con el lector y se encarga de construir un conocimiento al relacionar lo leído y lo aprendido. Nos propusimos evaluar el nivel de competencia de lectura crítica en médicos residentes de medicina familiar (MF) para evaluar si cuentan con la competencia de lectura crítica. Para ello, se aplicó el instrumento de evaluación de lectura crítica de Campos. El 63% de los residentes de MF presentó un nivel de comprensión lectora medio. No se encontró significación estadística al correlacionar las variables comprensión lectora y sexo o al correlacionar comprensión lectora y edad. Concluimos que la competencia de lectura crítica encontrada en los médicos residentes de la unidad estudiada es de nivel medio, siendo mayor que el nivel encontrado en otros estudios bajo condiciones similares. Es necesario establecer estrategias educativas que mejoren las capacidades de lectura crítica de artículos médicos.

Palabras clave: Lectura crítica; Residentes de Medicina Familiar.

1. Introduction

The training of a doctor requires the acquisition of competencies and skills that go beyond mere clinical and theoretical knowledge of pathologies. Currently, the medical curriculum, especially that of specialists, includes the search, analysis and discussion of information as an integral part of the graduation profile (1-2). However, current education tends to be linear, which limits the development of critical, reflective, purposeful, changing and value-enriched knowledge. Contemporary educational theories emphasize the need to change traditional educational strategies, which focus on the memorization of knowledge, the excessive use of lectures, mere exposition and dictation, which leaves the student in a careful environment of improvement and reflection. On the other hand, those doctors who decide to take a specialization course often adopt a conformist approach that prevents them from appreciating the full picture of a health problem, whether they specialize and dedicate their attention exclusively to their branch, or seek to acquire knowledge during their training, becoming competent for the institution that trains them, but incompetent in different scenarios or environments. Thus, the need arises for a new model that trains doctors with research, analysis and critical thinking skills, capable of critically evaluating the information they find.

However, to address reading comprehension in the medical field, it is essential to understand the origin of this new practice. Before the adoption of research methodology as a source of knowledge, an ideological approach known as evidence-based medicine emerged in Paris in the mid-19th century. In this approach, formulated knowledge had to undergo evaluation and validation before publication, as opposed to obsolete Aristotelian medicine, which gave relevance to knowledge solely based on the importance of the researcher. Without an analysis, judgment or debate of their publications (3-4).

Currently, evidence-based medicine requires doctors to possess four basic skills: knowledge of research methodology, statistics, knowledge of general medicine, and professional experience. However, various investigations have pointed out the lack of competence in these skills on the part of medical students and residents. Therefore, critical reading becomes the main weapon of evidence-based medicine, allowing the doctor to evaluate the statistics, their applicability in daily life and the possibility of reproducing the protocol in their population (5-6). Although the training of a family doctor does not differ from that of other specialties, due to the breadth of their field of action, sometimes there are gaps in the academic plans dedicated to clinical training (7).

According to some authors, the quality of reading is measured by the speed and degree of reading comprehension. Reading comprehension is achieved when the reader relates the text to their previous knowledge, which allows them to build new knowledge (8). Therefore, it is important that resident physicians and specialists are trained to review each article and/or report of original research, analyzing the advantages and disadvantages in medical practice (9). This work aims to evaluate the level of critical reading competence in Family Medicine (MF) residents of the Family Medicine Unit No. 24 (UMF No. 24) of the Mexican Institute of Social Security (IMSS) in Tepic, Nayarit, Mexico.

2. Methods

Design

A descriptive, cross-sectional study was carried out, in which the Critical Reading Evaluation instrument by Campos A et al (10) was applied. A database was built in the SPSS® V.26 program, descriptive statistics were performed with measures of central

tendency and for inferential statistics, the chi square test was used with a value of $p < .05$ level of significance.

Participants

67 MF residents assigned to UMF No. 24 of the IMSS in Tepic, Nayarit, participated during the 2020-2021 cycle. The participants agreed to participate and signed the informed consent letter. The research was submitted for validation by the research committee and the research ethics committee of the unit where the project was developed, with a folio number R-2020-1801-017.

Dimensions of critical reading

- Adequate interpretation: implies the ability to reconstruct the content of a work, deduce or identify the design, type of sampling, variables, procedures, etc., which are presented explicitly or implicitly, infer a meaning and reach conclusions obtained from the writing. .
- Making appropriate judgments: The FM resident's ability to distinguish between the strong and the weak, the favorable and the unfavorable, the relevance and validity of the procedure in a study, as well as the relevance of the best supported arguments, can be evaluated through the appropriate interpretation of a text. This interpretation implies the ability to reconstruct the content of the work, identify the design, type of sampling, variables, procedures, etc., which are presented explicitly or implicitly, infer a meaning and reach conclusions based on the writing.
- Formulation of relevant proposals: these are tactical or alternative strategies that the student can propose to improve, clarify or remedy the limitations that reading poses (10).

3. Results

Among the residents evaluated, the female gender predominated, representing 60% of the sample. Regarding age, the predominant value was 30 years. Regarding the year of specialization, the distribution was homogeneous, 35% were in the first year of residency, 32.8% in the second year, and 31.3% in the third degree of the specialty.

The results indicate that 63% of residents have a medium level of reading comprehension of medical articles (figure 1). An evaluation analysis was carried out between the level of reading comprehension and the academic grade, but no statistically significant relationship was found ($p = 0.308$ (table 1).

4. Discussion

In this research, the results differ from those reported by Campos et al (10) since in their study, the majority of residents presented a low level of reading comprehension, while in this research a medium level of reading comprehension was observed. Furthermore, in the same publication, similar data were found on the relationship between the resident level and the level of reading comprehension. According to Castillo's research (8), a difference is observed in the results obtained when applying the evaluation instrument, with a higher level of understanding among the evaluated residents. However, after the implementation of the educational strategy in their study, the level of understanding improved considerably. This highlights the importance of incorporating educational strategies in the work plan or study plan of FM resident physicians.

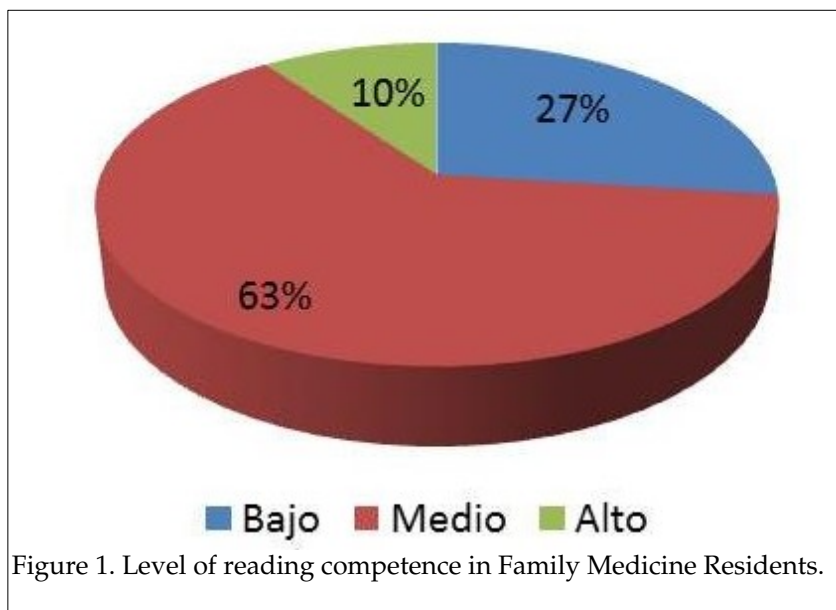


Table 1. Relationship between the level of reading comprehension and year of residence of the residents of Medicine Family (n=67).

Year	Degree of reading proficiency			Total
	Low	Half	high	
First year	7	16	1	24
Second year	8	12	2	22
Third year	3	14	4	21
Total	18	42	7	67

In this research, data were found that coincide with those described by Galli (11), who demonstrated that the majority of cardiology resident doctors have an average level of reading comprehension. Furthermore, a difference is observed in the segregation of data by gender, with the majority of residents being male. In both results it is concluded that there is no statistical difference between gender and the level of reading comprehension. In contrast to the published research of Cabrera (9), where it was found that the level of reading comprehension of doctors residing in Guatemala was low and medium compared to our residents. After the educational intervention, the results were equal to those obtained in this research. It is possible that the similarity of the results after the educational intervention is due to the little importance given to reading comprehension in medical training. Finally, Carranza's 2007 research (12) found random, low differences in reading comprehension. This result contrasts with that obtained later, which shows a gradual improvement in critical reading skills.

It therefore seems that resident physicians of any specialty have left behind the passive attitude towards the information found in publications and research. Although there have been improvements over time, it is still important to implement educational strategies to improve critical reading in resident physicians.

5. Conclusions

- Competence in critical reading is essential in medical specialties, so its evaluation, development and monitoring are relevant in all curricular plans. In this study, an average level of competence in critical reading has been observed, higher than that found in other studies under similar conditions. No significant difference in competence was found when analyzing the data by years of specialization or gender.
- It is essential to develop educational strategies that improve critical reading skills in medical articles. This research represents a starting point in the search for specialist doctors with more solid skills, which will allow them to perform more effectively and raise the quality of care.

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