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E-PROFESSIONALISM ASSESSMENT INSTRUMENTS IN HEALTHCARE PROFESSIONALS: A SYSTEMATIC REVIEW PROTOCOL

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Keywords:	Social Media, Medicine, eHealth, Nurses, Pharmacists

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ABSTRACT

Introduction: Social media has an impact on the reach and speed with which information is disseminated, benefiting patients and healthcare professionals by sharing knowledge, even from a distance. However, these channels can pose risks when used irresponsibly by these actors. Thus, e-professionalism emerges as a modulator of professionals' behaviors and attitudes, and its evaluation is fundamental given the demand for quality in services, including in these settings. Thus, this study aims to identify instruments used to assess the e-professionalism of healthcare professionals.

Methods and analysis: A systematic review will be developed to answer the question: "How is e-professionalism in healthcare professionals evaluated in the literature?". The searches will take place in the following databases: PUBMED/Medline, EMBASE, Web of Science, ERIC and Scopus using descriptors such as "professionalism", "e-professionalism", "social media" and synonyms. Studies will be selected after evaluating titles and abstracts, followed by analysis of full texts using the Rayyan tool. Studies that present the development and validation of e-professionalism assessment instruments for Nursing, Pharmacy, Medicine and Dentistry will be included. The quality of the instruments will be assessed based on evidence of content and construct validity reported by the developers.

Ethics and dissemination: This review is exempt from ethical approval because it does not include patient data. The results of the systematic review will be disseminated through a peer-reviewed journal and presented at a relevant conference.

Systematic review registration: PROSPERO REGISTRATION ID: CRD42023454825

Keywords: professionalism, e-professionalism, social media, instruments, nursing, pharmacy, medicine, dentistry.

INTRODUCTION

In recent years, social media has had a great social impact, being essential in the daily lives of people who seek to share knowledge, access information and entertainment immediately. [1-3] Furthermore, the COVID-19 pandemic influenced this scenario by affecting the execution and delivery of services, requiring rapid transformation and adaptation on the part of providers, including health services. [4-6]

There are beneficial and relevant influencing factors in the use of social media by professionals and students in the health field, with an expansion of the possibilities for

interprofessional collaboration and exchange of knowledge, in addition to getting closer to the patient despite the absence of physical contact. [7,8] Furthermore, health professionals use social media to mitigate the "infodemic", a phenomenon that was highlighted by the COVID-19 pandemic, characterized by the rapid dissemination of false information, negatively impacting society. [9,10]

Despite its importance, there are risks associated with the way certain information is shared and the way professionals and students communicate in a virtual environment. [8] There is a common concern related to the use of social media in the healthcare sector: the impact on professionalism - as the use of public platforms, although potentially beneficial, can have professional implications if they are not used correctly. [11]

It is worth highlighting that professionalism is a process developed by professions as a strategy so that they can control their own work and be socially recognized. [12,13] In the scope of health, professionalism is still a set of ideologies that serves as the basis for the social contract between professionals and society. [4] Professionalism manifested through social media is called e-professionalism by Cain and Romanelli (2009). [14] The authors argue that in this scenario, attitudes and behaviors become public and are subject to different interpretations.[14]

According to Duke and collaborators (2017) [11], among the main components of e-professionalism is the ability to distinguish between appropriate and inappropriate conduct and the use of social media privacy settings. [11] Due to concerns about the risk of unprofessional behavior in the use of social media and established boundaries between professional relationships, several organizations have published guidelines for the appropriate use of these platforms. [8, 15, 16]

In view of the above, it is a great challenge to understand professionalism, and it is possible to capture personal, interpersonal, and social dimensions [15]. Thus,

investment in studies to understand e-professionalism assessment instruments can imply the identification of gaps in assessment methods, the evolution of the construct in the health area and the improvement of services provided by its professionals.

METHOD AND ANALYSIS

The objective of the study will be to identify instruments used to assess the e-professionalism of healthcare professionals. To this end, a systematic review will be conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) [17] guidelines, and this protocol was registered in PROSPERO - International prospective register of systematic reviews (ID CRD42023454825).

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The answer to the question: "How is e-professionalism in healthcare professionals evaluated in the literature?" will be the focus of the review. To this end, a literature search will be carried out, consulting the PUBMED/Medline, EMBASE, Web of Science, ERIC, and Scopus databases with the following descriptors: "professionalism", "e-professionalism", "social media", and their combinations and synonyms.

Study selection

From the search, articles will be selected following the following steps: exclusion of duplicate studies in the databases consulted, evaluation of titles and abstracts and, subsequently, analysis of full texts. The study selection stage will be carried out with the help of the Rayyan QRCI tool. [18] The process will be carried out by two researchers independently, and possible disagreements will be resolved by a third researcher, according to guidelines recommended in PRISMA.

Inclusion criteria

For the analysis of full texts, studies that meet the criteria will be included: (a) studies that address the following health professions: Nursing, Pharmacy, Medicine, and

Dentistry, (b) studies that have the e-professionalism of health professionals such as central theme and (c) studies that present tools for evaluating the theme applied to professionals, students in the health area or both simultaneously.

The e-professionalism assessment tools will be included based on the following categorization, proposed by the systematic review by Wilkinson and colleagues (2009): observed clinical encounter assessment, assessments by coworkers, records of incidents of unprofessionalism, report critical incident reports, simulations, patients' opinions, supervisors' opinions, tests based on problem situations and self-administered assessment. [19] The categories are described in Table 1. Other literature reviews, theses and dissertations, abstracts, letters to the editor and conference papers will not be included.

Table 1: Professionalism assessment categories

CATEGORY	DESCRIPTION
Observed Clinical Encounter Assessment	Carried out by observing a professional-patient interaction that is conducted in real patient care environments using real patients.
Assessments carried out by coworkers	This occurs through the collection of data and feedback on an individual's performance, acquired from various interested parties. Can be used to assess skills and behaviors that can sometimes be hidden within a formal environment
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Critical Incident Report	This method asks the professional to reflect on a critical incident that he or she has experienced or witnessed. Can encourage reflection and attention to elements of professionalism
Simulations	Scenarios that resemble real-life situations, but often use models or simulated patients. Simulations can be used to evaluate rare or unpredictable situations or to standardize the assessment of higher order communication skills
Patients' opinions	Obtained by collecting questionnaire-based patient opinions about the nominee's abilities in specific áreas
Supervisors' Opinion	This is a summary view made by a supervisor, reported on a form with predefined criteria. Criteria help define areas of importance, but their tendency to be used as the viewpoints of single observers at unique times can make them unreliable and difficult to defend.
Tests based on problem situations	This requires providing a scenario, such as an ethical dilemma or video meeting, and a series of questions to be answered. test

	underlying knowledge of some principles of professionalism, moral reasoning, or decision-making
Self-administered assessment	It consists of a questionnaire-based tool that an individual uses to evaluate his or her personal attributes or attitudes. Can help with reflection, but has limited use in summative assessments because it cannot assess what a person does

Data extraction

For the studies included in the review, the following data will be extracted: author(s), year and language of publication, journal, country of origin, general objective and specific objectives of the study, profession, population (whether professionals or students of a certain profession), context and methodological design.[20] Data extraction will be carried out by two researchers independently, and a third researcher will be responsible for consensus. The extracted data will be arranged in Microsoft Excel® spreadsheets.

Assessment of the quality of tools

The quality of the tools will be assessed using the Consensus-based Standards for the Selection of Health Status Measurement Instruments (COSMIN) checklist, developed to evaluate, in a valid and reliable way, the methodological quality of tools that measure multidimensional and not directly measurable constructs.[21]

The COSMIN checklist contains nine boxes for evaluating measurement properties: internal consistency (A), reliability (B), measurement error (C), content validity (D), structural validity (E), hypothesis testing (F), cross-cultural validity (G), criterion validity (H), and responsiveness (I), and a box contains standards for interpretability studies (J). These boxes contain five to 18 items that cover the reliability, validity, and responsiveness domains.

Each item will be answered using a scoring system proposed by Terwee and collaborators (2012), which consists of a four-point scale (excellent, good, fair or bad),

and the methodological quality of the box will be classified by the worst evaluation among the items.[21,22] Therefore, if in a box there is a single item considered "bad", the methodological quality of the measurement property evaluated in the box is classified in this way. This step will be independently carried out by two researchers. To reduce the risk of bias, specific quality criteria will be adopted for each item on the COSMIN checklist. [21]

ETHICS AND DISSEMINATION:

This review is exempt from ethical approval because it does not include patient data. The results of the systematic review will be disseminated through a peer-reviewed journal and presented at a relevant conference.

DISCUSSION

In this scoping review, e-professionalism assessment instruments for Nursing, Pharmacy, Medicine, and Dentistry will be identified. By synthesizing this evidence, we hope to contribute to the understanding of how professionalism has been characterized in virtual settings. This understanding is fundamental given the impact of social media and the need for health professionals to adapt to these changes.

In view of this, it is expected to provide insights from the assessment of the quality of the identified instruments to report the effectiveness and usability of effective tools for health professionals. Finally, this study can serve as a basis for future investigations, inspiring additional research in the field of e-professionalism by providing information that empowers students and professionals to face the challenges of the digital world with ethics and competence.

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Declarations:

Ethics approval and consent to participate: not applicable

Consent for publication: not applicable.

Availability of data and materials: Datasets used and/or analyzed during the current study made available by the corresponding author upon request.

Competing interests: The author(s) declare(s) that there are no conflicts of interest.

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Author contributions: FCAN, LGS, TMAT, DMS, and DPLJ participated in the study conception and design. FCAN, LGS, TMAT, and DMS drafted the article. FCAN and DPLJ revised the manuscript critically for important intellectual content.

All authors accepted the final version of the manuscript.

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Keywords: professionalism, e-professionalism, social media, instruments, nursing, pharmacy, medicine, dentistry.

Strengths and limitations of this study

- The study presents a relevant and timely topic that has been generating growing interest among professionals and researchers.
- This study has the potential to encourage the production of new research on e-professionalism in the healthcare field.
- This protocol does not cover all healthcare professions, which may limit the comprehensiveness and generalizability of the results.

INTRODUCTION

Social media refers to Web 2.0 digital platforms that integrate personal and mass communication, enabling content creation, information sharing, and user interaction. These platforms can be categorized into different types, such as communication tools (e.g., WhatsApp, Telegram) and social networks (e.g., Instagram, Facebook) [1, 2]. They differ from Web 1.0 platforms, such as email and text messaging, by offering a more dynamic and interactive experience, in contrast to the linear content distribution characteristic of earlier digital communication média. [2]

In recent years, social media has had a great social impact, being essential in the daily lives of people who seek to share knowledge, access information and entertainment immediately. [3-5] Furthermore, the COVID-19 pandemic influenced this scenario by affecting the execution and delivery of services, requiring rapid transformation and adaptation on the part of providers, including health services. [6-8]

There are beneficial and relevant influencing factors in the use of social media by professionals and students in the health field, with an expansion of the possibilities for interprofessional collaboration and exchange of knowledge, in addition to getting closer to the patient despite the absence of physical contact. [9,10] Furthermore, health professionals use social media to mitigate the "infodemic", a phenomenon that was highlighted by the COVID-19 pandemic, characterized by the rapid dissemination of false information, negatively impacting society. [11,12]

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A detailed draft of the search strategy proposed for this study can be found in the supplementary file.

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Self-administered assessment	It consists of a questionnaire-based tool that an individual uses to evaluate his or her personal attributes or attitudes. Can help with reflection, but has limited use in summative assessments because it cannot assess what a person does

Data extraction

For the studies included in the review, the following data will be extracted: author(s), year and language of publication, journal, country of origin, general objective and specific objectives of the study, profession, population (whether professionals or students of a certain profession), context and methodological design. [22] Data extraction will be carried out by two researchers independently, and a third researcher will be responsible for consensus. The extracted data will be arranged in Microsoft Excel® spreadsheets.

Assessment of the quality of tools

The quality of the tools will be assessed using the Consensus-based Standards for the Selection of Health Status Measurement Instruments (COSMIN) checklist, developed to evaluate, in a valid and reliable way, the methodological quality of tools that measure multidimensional and not directly measurable constructs [23].

The COSMIN checklist contains nine boxes for evaluating measurement properties: internal consistency (A), reliability (B), measurement error (C), content validity (D), structural validity (E), hypothesis testing (F), cross-cultural validity (G), criterion validity (H), and responsiveness (I), and a box contains standards for interpretability studies (J). These boxes contain five to 18 items that cover the reliability, validity, and responsiveness domains.

Each item will be answered using a scoring system proposed by Terwee and collaborators (2012), which consists of a four-point scale (excellent, good, fair or bad), and the methodological quality of the box will be classified by the worst evaluation among the items.[23, 24] Therefore, if in a box there is a single item considered "bad", the methodological quality of the measurement property evaluated in the box is classified in this way. This step will be independently carried out by two researchers. To reduce the

risk of bias, specific quality criteria will be adopted for each item on the COSMIN checklist. [23]

Patient and Public Involvement

None

ETHICS AND DISSEMINATION:

This review is exempt from ethical approval because it does not include patient data. The results of the systematic review will be disseminated through a peer-reviewed journal and presented at a relevant conference.

DISCUSSION

In this scoping review, e-professionalism assessment instruments for Nursing, Pharmacy, Medicine, and Dentistry will be identified. These professions were selected for this study due to their longstanding tradition in the development of health sciences. Furthermore, these are the health-related professions with the highest number of registered professionals, highlighting their extensive integration and significant impact on healthcare systems [25] (WHO - World Health Organization, 2024).

By synthesizing this evidence, we hope to contribute to the understanding of how professionalism has been characterized in virtual settings. This understanding is fundamental given the impact of social media and the need for health professionals to adapt to these changes.

In view of this, it is expected to provide insights from the assessment of the quality of the identified instruments to report the effectiveness and usability of effective tools for health professionals. Finally, this study can serve as a basis for future investigations, inspiring additional research in the field of e-professionalism by providing information that empowers students and professionals to face the challenges of the digital world with ethics and competence.

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Declarations:

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Consent for publication: not applicable.

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SEARCH STRATEGY – SCOPING REVIEW – PROFESSIONALISM IN SOCIAL MEDIA

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PubMed/Medline	((((((((((((((((((("Social Media"[MeSH Terms]) OR ("Social Media")) OR ("Internet"[MeSH Terms])) OR ("Internet")) OR ("Internet Use")) OR ("Internet of Things")) OR ("Internet of Things"[MeSH Terms])) OR ("Internet Use"[MeSH Terms])) OR ("Media, Social")) OR ("Social Medium")) OR ("Web 2.0")) OR ("World Wide Web")) OR ("Cyberspace")) OR ("Cyber Space")) OR ("Internet Uses")) OR ("Use, Internet")) OR ("Web Usage")) OR ("Usage, Web")) OR ("Web Use")) OR ("Use, Web")) OR ("Internet Usage")) OR ("Usage, Internet") **AND** ((("Professionalism"[MeSH Terms]) OR ("Professionalism")) OR ("Online professionalism")) OR ("Digital professionalism")) OR ("E-professionalism")