NURSING AND VISIBILITY IN THE COVID-19 PANDEMIC: SOCIAL MEDIA MONITORING

ENFERMAGEM E VISIBILIDADE NA PANDEMIA DA COVID-19: MONITORAMENTO DE MÍDIA SOCIAL

ENFERMERÍA Y VISIBILIDAD EN LA PANDEMIA DEL COVID-19: MONITORIZACIÓN DE LOS MEDIOS SOCIALES

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Objective: analyze the publications of Twitter users directed to the campaign of valuation of Nursing, driven by the terms #LuteComoUmaEnfermeira and #EnfermagemEuValorizo. Method: quantitative research, based on digital methods. The search was realized using the hashtags #LuteComoUmaEnfermeira and #EnfermagemEuValorizo for tweets extraction. 2,613 tweets were selected for analysis. Results: 22.5% of publications are located in the Brazilian Southeast region and 9.3% in the Northeast region. There were more than 18,000 interactions (likes and shares), and the authors of the posts reach an estimated audience of about 7 million people). The content of the posts mainly related to the regulation of working hours, Personal Protective Equipment, the fight against COVID-19, the defense of the majority female workforce and the fight for rights. Conclusion: the realization of the virtual campaign had important visibility in the national territory and presented great visibility to the profession in number and reach on the Internet.

Descriptors: Coronavirus Infections. Informatics in Nursing. Nursing Professionals. Social Media. Data Mining.

Objetivo: analisar as publicações de usuários do Twitter direcionadas à campanha de valorização da Enfermagem, impulsionadas pelos termos #LuteComoUmaEnfermeira e #EnfermagemEuValorizo. Método: pesquisa quantitativa, fundamentada nos métodos digitais. A busca foi realizada utilizando as hashtags #LuteComoUmaEnfermeira e #EnfermagemEuValorizo para extração de tweets. Foram selecionados para análise 2.613 tweets. Resultados: 22,5% das publicações localizam-se na região Sudeste do país e 9,3% na região Nordeste. Houve mais de 18 mil interações (curtidas e compartilhamentos), sendo que os autores das postagens atingem um público estimado de cerca 7 milhões

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de pessoas. O conteúdo das postagens versava principalmente sobre a regulamentação da jornada de trabalho, Equipamentos de Proteção Individual, combate ao COVID-19, defesa da força de trabalho majoritariamente feminina e luta por direitos. Conclusão: a realização da campanha virtual teve visibilidade importante no território nacional e apresentou grande visibilidade à profissão em número e alcance na Internet.

Descritores: Infecções por Coronavírus. Informática em Enfermagem. Profissionais de Enfermagem. Mídias Sociais. Mineração de Dados.

Objetivo: analizar las publicaciones de los usuarios de Twitter dirigidas a la campaña de valoración de la Enfermería, impulsada por los términos #LuteComoUmaEnfermeira y #EnfermagemEuValorizo. Método: investigación cuantitativa, basada en métodos digitales. La búsqueda se llevó a cabo utilizando los hashtags #LuteComoUmaEnfermeira y #EnfermagemEuValorizo para la extracción de tweets. Resultados: el 22,5% de las publicaciones se localizan en la región Sudeste del país y el 9,3% en la región Nordeste. Hubo más de 18.000 interacciones (curtidas y compartidas), y los autores de los mensajes llegaron a un público estimado de unos 7 millones de personas. El contenido de los puestos se refería principalmente a la regulación de los horarios de trabajo, el equipo de protección personal, la lucha contra el COVID-19, la defensa de la fuerza de trabajo mayoritariamente femenina y la lucha por los derechos.

Conclusión: la realización de la campaña virtual tuvo una importante visibilidad en el territorio nacional y presentó una gran visibilidad a la profesión en número y alcance en Internet.

Descriptores: Infecciones por Coronavirus. Informática Aplicada a la Enfermería. Enfermeras Practicantes. Medios de Comunicación Sociales. Minería de datos.

Introduction

In December 2019, a new Coronavirus, SARS-CoV-2, was identified in the city of Wuhan, Hubei Province, China[1]. The virus has high transmissibility and causes an acute respiratory syndrome that has spread to several countries in the world. The disease, COVID-19, thus no longer has a local character and quickly becomes a pandemic[2]. It varies from mild cases to very severe cases with respiratory failure that affect about 5% and 10% of cases, requiring immediate hospitalization due to the severity of the clinical picture.

That said, Brazil has adopted a contingency plan and response measures related to containment and mitigation actions to slow down the advance of the pandemic, which has varied in dynamics from state to state of the federation[3].

In this context, Nursing professionals assume an important role in combating the new coronavirus, and through management and care practices for people with COVID-19, they establish the planning and interventions in the front line of facing the pandemic. Thus, Nursing has acted in the direct care since the primary attention to the health, with the accompaniment of the cases in home isolation until the tertiary attention, with the care to the hospitalized person in serious state, using competences to act in the critical care to the meeting of the clinical demands caused by the disease in evidence.

At this juncture, there is evidence of the nursing team's difficulties related to the fragile working conditions, physical and emotional overload, precarious remuneration and lack of human capital and tools, such as individual protection equipment (IPE), so necessary to face the COVID-19 pandemic[4].

In a broad context, it should be emphasized that in the world of labor there are several professional categories that have been suffering the deterioration of labor conditions and the loss of rights due to fiscal adjustment and the cut of investments by the State, conditioned by the financialization of the capitalist system. In this context, it can be observed that Brazilian Nursing has been suffering from a reduction in human resources, maintenance of extensive working hours, deterioration in the quality of life, loss of rights, low wages and precarious and fragile work bonds[5].

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Thus, parallel to the global exposures of macropolitics related to the pandemic, it is necessary to emphasize the importance of micropolitcs, contexts where the spaces of human subjectivities occurs, but which concretize local realities, aligned with global trends. In this sense, amidst the need to maintain social isolation and adopt the measures recommended by the World Health Organization (WHO), in Brazil, a group of Nursing professionals who protested peacefully for measures of better working conditions for the category acting in the pandemic, was surprised with attacks from groups that supposedly contradicted the scientific guidelines recommended by the WHO to contain the pandemic.

The nurses' demonstration and struggle, in this scenario, was configured in demands for more resources for health and mourning for the deaths caused by COVID-19. Moreover, it should be noted that Brazil currently leads the record of nursing professionals killed by COVID-19[6].

In this context, both the protagonism of Nursing in facing the pandemic, and the fight, in protest, of the category for professional valorization and request for greater investments by the federal government in the Brazilian Unified Health System (SUS), is that organizational entities of the profession, such as the Federal Council of Nursing (COFEN), have carried out campaigns to promote the valorization of the category. Among these, the "Virtual Act for Nursing to Professionals Killed in the Pandemic", held on May 12, 2020, International Nursing Day, which mobilized, via Internet, the publication of messages, images, videos and information, with the purpose of giving visibility to the valorization of Nursing.

Thus, the objective of this research was to analyze the publications of Twitter users directed to the campaign of valuation of Nursing, promoted by the terms #LuteComoUmaEnfermeira and #EnfermagemEuValorizo[a].

Method

This is a quantitaxtive research, based on digital methods[7] and performed through the use of tools and techniques of data mining in virtual social media. The research aims at reflecting, describing and discussing aspects related to Nursing, in the field of Informatics in Nursing knowledge. This field of information science is concerned with the analysis and dissemination of data through the use of devices, mainly connected to the Internet[8].

Nowadays Twitter represents an important tool for people to quickly communicate their opinions, convey information and express positions on some topic. Twitter is a social media and a server in which its users publish and share content (short texts of up to 280 characters – tweets), images and other specific media and allows interaction among other users who enjoy, comment on and retweet publications[7,9]. All these interactive elements imply the engagement between people in these social platforms. Furthermore, an advantage of using the tool for research is the fact that its Application Programming Interface (API) allows obtaining and extracting a large amount of data that can be analyzed and generate valuable information of an interdisciplinary nature in data science.

The data were obtained from an automatic tweets collection system using RStudio and Facepager software, based on the script prepared for the research and the R (retweet)[10] package. The data extraction was done through the API. This technique involves an interconnection between RStudio and the Twitter API, and this connection created enables data collection. This mining process, via API, requires some knowledge of command execution and programming[9].

The search was carried out one day after the virtual campaign (May 13, 2020) on Nursing and the professionals killed in the pandemic of COVID-19, using for tweets extraction

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a. (Ndt) The text in the hashtag #LuteComoUmaEnfermeira can be translated as #FightLikeANurse, and in the hashtag #EnfermagemEuValorizo as #NursingIValueIt. In this research, the use of these hashtags was essential; thus, we did not translate them in this English version throughout the article.

the hashtags #LuteComoUmaEnfermeira and #EnfermagemEuValorizo. The data were found using the hashtags between May 5 and 13, 2020. The hashtag is a keyword preceded by the cardinal symbol (#), which allows Web publications to be more easily found. Terms, keywords or tags are often used to index a discussion or topic on Twitter, Facebook, Google, Youtube and Instagram.

Thus, a sample of 3,356 original tweets from social media users was located. 743 duplicate tweets (from the same user/author) were excluded and 2,613 tweets were selected for analysis.

The inclusion criteria were tweets that used the campaign hashtags (#LuteComoUmaEnfermeira or #EnfermagemEuValorizo) published during the analysis period of the study. The retweets (RT) were excluded and only the number of RT (shares) of the original tweets/messages were counted.

In order to obtain a sample of personal tweets, i.e., published directly by personal account users, we collected tweets published by softwares from known clients: Android devices, iOS devices (iPhone and iPad), Windows Phone devices and personal computers. In this way, tweets that may have been generated and published by "robots" or bot – an automated profile that is not directly controlled by a person – were excluded.

The information that composes the study variables was extracted, subdivided into two groups. In the 1st group, the characteristics of the post were: date and time of the post; source/device used; character count of the tweet; retweet count (shares); tweet count/favorites of the post; language of the post; federation unit (UF) of the post; content of each tweet. In the 2nd group the characteristics of the user profile were identified: name of the user/author of the post; number of followers of the user; total tweets of the user; accounting of verified accounts/public figures.

It was analysed the most influential account profiles (the largest number of followers and verified profile) that published posts related to the study terms, as well as the most popular posts that corresponded to the research terms during that period. Then, a word cloud was elaborated with the most common hashtags and the most frequent keywords (number of occurrences) in the postings.

Throughout the data mining process, the functions of the statistical programming language R, from the rtweet package developed by Kearney MW[10], were used. The process comprises the following steps: elaboration of the search and collection strategy; data collection; pre-processing of the collection; assembly of a database with the aforementioned variables; formulation of tables, graphs and illustrations with indicators for the analysis.

It is important to highlight that, for the development of this research, data mining also comprises a text mining of a significant amount of information. For this purpose, a corpus – a collection of texts, based on the content of the posts (tweets) – was elaborated to obtain a quantitative textual analysis, words count and words cloud by word frequency – the 100 most recurrent terms. For that, the free software *Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires* (IRAMUTEQ)[11] was used.

The study used exclusively data (tweets) recovered from public domain social media. Therefore, no ethical approval was required and it is exempt from the need for a Research Ethics Committee opinion. In addition, the research is in compliance with the terms of services and developer policies of the Twitter API.

Results

Table 1 shows the characteristics and distribution of Twitter users' posts. In it, it is possible to observe that most of the publications were made using mobile devices (1,932 – 74% – Android and iOS). Despite being a national virtual campaign, it is noted the publication of posts in other languages, such as Spanish and English. The language classified as undetermined (929 – 35.6%) refers to posts that use exclusively hashtags (#) and publications of images and/or videos accompanied by the hashtags; this causes the programming to identify the language as undetermined; however, the vast majority of these are in Portuguese.

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Table 1 – Characterization of Twitter posts regarding hashtags. Brazil. 5-13 May 2020. (N= 2613)

Variables					
Devices	**n**	**%**	**Account status**	**n**	**%**
Android	1337	51.2	Not verified	2530	96.8
Desktop/Web	567	21.7	Verified	83	3.2
iOS	595	22.8			
Others	114	4.4	**Localização****	**n**	**%**
			Midwest Region	191	15.9
			Northeast Region	244	9.3
Idioma	**n**	**%**	North Region	59	2.3
Spanish	15	0.6	Southeast Region	587	22.5
English	9	0.3	South Region	117	4.5
Portuguese	1660	63.5	Not informed	1415	54.2
Undetermined*	929	35.6			

Descriptive statistics			
Average	**Minimum**	**Maximum**	**Sum**
127.7	21	282	333,732
5.75	-	2,216	15,020
1.17	-	245	3,050
2,529.5	-	1,279,856	6,609,606

Source: Created by the authors.
Note: Conventional signal used:

   - Numeric data equal to zero not resulting from rounding.

* It refers to posts that use exclusively hashtags (#) and images and/or videos accompanied by the hashtags: #LuteComoUmaEnfermeira, #EnfermagemEuValorizo.
** Origin location of the post, grouped according to the regional division into macroregions (five major regions) of Brazil.

As for the descriptive analysis, the minimum number of characters of the tweets was 21, which coincides with the hashtag characters: #enfermagemeuvalorizo. There were more than 18,000 interactions (summing up the tweets and shares), with the authors of the posts reaching an audience of almost 7 million profiles – estimated by the sum of the number of followers of the authors of the posts (Table 1).

The accounts are predominantly unverified, which means greater participation of individuals/common, i.e., that they are not public figures and/or accounts of official pages of bodies and institutions. Of the profiles that informed their location on Twitter, 22.5% are located in the states of the Southeast region of the country, followed by the Northeast region (9.3%), as shown in Table 1 and illustrated in the chorus map of Figure 1.

Figure 1 illustrates the geographic distribution of national participation in the campaign and the words cloud shows the degree of frequency of the 100 most used vocabulary in the posts throughout the country during the period analyzed. In this sense, the more the word was used, the larger (more evident) the word on the digital graph. In addition to the hastags monitored in the survey and which appeared more frequently, we highlight: #HUdaUSPemLuta, #AposentadoriaEspecial, #PisoSalarial, #SOSTrabalhadoresDaSaúde[b].

b. (NdT) The texts of these four hashtags can be translated, respectively, as #HUfromUSPinStruggle, #SpecialRetirement, #SalaryFloor, #HealthWorkersSOS

Figure 1 – Coroplectic map of the geographic distribution of the number of posts, according to Federation Unit (a) and word cloud of the most frequent terms of these posts (b). Brazil – 2020
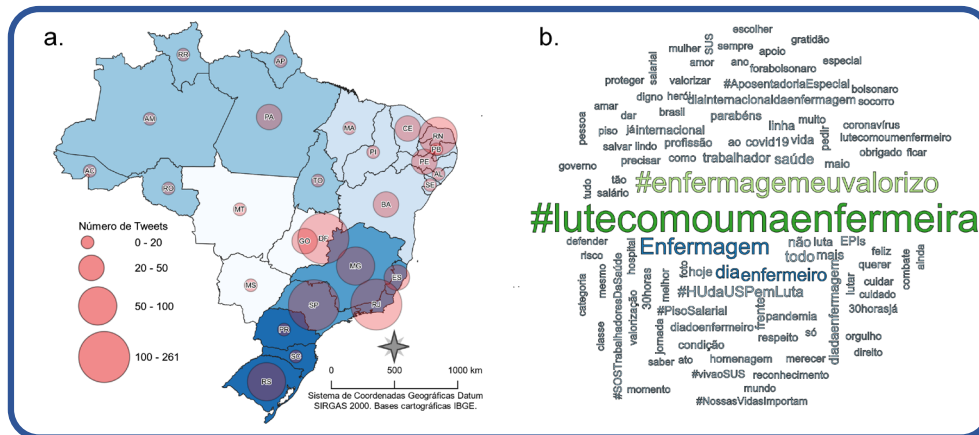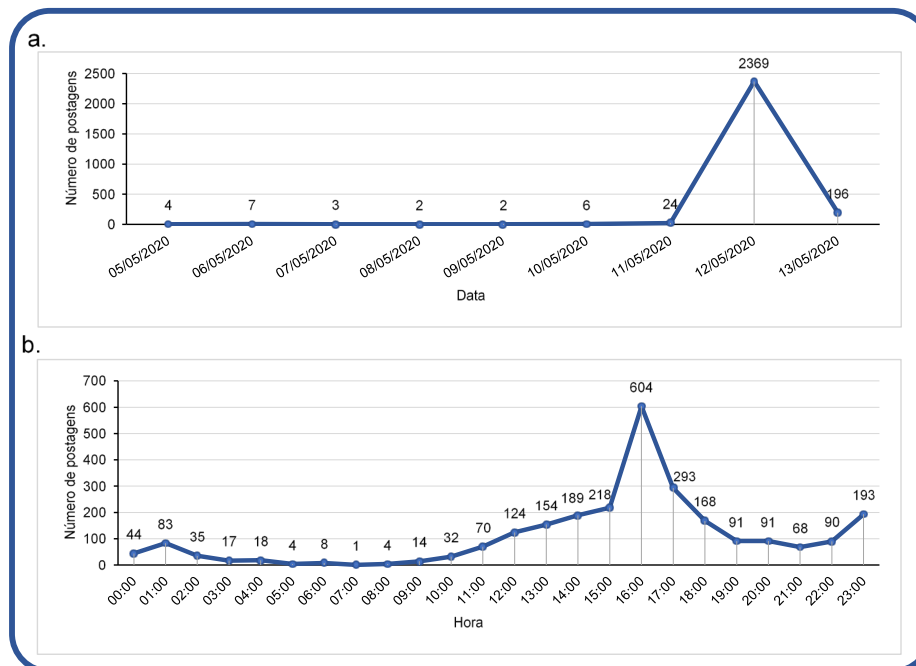

Source: Created by the authors.

The virtual campaign scheduled for May 12, 2020 recorded a few publications days earlier, with a peak on the campaign day and a sharp decline the following day, May 13, 2020 – date of the data collection. When the time distribution is observed for the variable hour, the peak of the posts is at 4pm, with 604 publications (Figure 2).

Figure 2 - Time distribution of Twitter posts, according to date (a) and time (b). Brazil – 2020

Source: Created by the authors.

To demonstrate the main themes and issues related to the campaign hashtags, the main publications were presented and ordered, according to the influence (measured by the number of followers) of the author of the post. The main influence presented more than 1 million followers on Twitter and its publication had 643 likes and 170 shares – it is a public figure in the universe of music (Pop rock). Of the other influencers, six are related to politics, one

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is a youtuber (Drag Queen), one is a Brazilian actress, and the other is an official profile of the International Committee of the Red Cross. The contents of the posts deal with various themes, with emphasis on: regulation of the working day; individual protection equipment; the fight against COVID-19; defense of the majority female labor force in Nursing and the fight for rights (Chart 1).

Chart 1 – Ranking of the ten main influencers, according to number of followers. (continued)

Sequence	Influencer	Post text content	Engagement
1	Nando Reis ✔	• Working hours regulation (which has been awaiting a vote in the City Council for 20 years) • Wage floor institution • IPE to exercise your profession safely We will fight for the valorization of nurses, technicians and assistants. ✊🏽 (#LuteComoUmaEnfermeira #EnfermagemEuValorizo)	Followers: 1,279,856 Likes: 643 Shares: 170
2	David Miranda ✔	Tomorrow, May 12, is International Nursing Day. One of the initiatives to honor and defend these professionals who are in the front line in the fight against covid-19, we will make a tweet at 8:30pm. #LuteComoUmaEnfermeira #SOStrabalhadoresdasaúde #ForaBolsonaro[c]	Followers: 330,757 Likes: 475 Shares: 64
3	Sâmia Bomfim ✔	May the International Nursing Day be a milestone of change for the more than 2.2 million Brazilian professionals who, to date, have no minimum wage and no regulated working hours. It is urgent to guarantee rights and decent working conditions. #LuteComoUmaEnfermeira	Followers: 288,016 Likes: 324 Shares: 24
4	Luciana Genro ✔	Health is a female word[d]! Women are the majority among health workers, they are in the front line of the fight against the coronavirus in the most diverse professions and they need our support. #SOSTrabalhadoresDaSaúde #LuteComoUmaEnfermeira #NossasVidasImportam #ImpeachmentJá[e] On this International Nursing Day we once again remind these professionals who are true heroes and heroines of the fight against the pandemic. As well as all health workers. #SOSTrabalhadoresDaSaúde #LuteComoUmaEnfermeira #NossasVidasImportam #ImpeachmentJá	Followers: 265,490 Likes: 87 Shares: 7
5	Lorelay Fox ✔	#LuteComoUmaEnfermeira 🙏	Followers: 213,127 Likes: 2,216 Shares: 245

c. (NdT) The text in the hashtag #ForaBolsonaro can be translated as #GetOutBolsonaro.
d. (NdT) In the Portuguese language, the nouns have gender, and the word Saúde, that means Health, is a female word.
e. (NdT) The texts in the hasgtags #NossasVidasImportam and #ImpeachmentJá can be respectively translated as #OurLivesMatter #ImpeachmentNow.

Chart 1 – Ranking of the ten main influencers, according to number of followers.   (conclusion)

Sequence	Influencer	Post text content	Engagement
6	Luiza Erundina ✔	Behind the masks, there are families. #LuteComoUmaEnfermeira #AuxilioParaSaudeJa[f]	Followers: 185,082 Likes: 48 Shares: 4
7	Erika Kokay ✔	Our gratitude to the nursing professionals who are fighting a historic fight against the virus and in defense of life. #LuteComoUmaEnfermeira	Followers: 152,939 Likes: 229 Shares: 57
8	Comitê Internacional da Cruz Vermelha ✔	On this #DiaDoEnfermeiro, let's thank those who work on the front line saving our lives. 🙏❤️ Men and women nurses should be protected. #enfermagemeuvalorizo 👩‍⚕️ Women nurses 👨‍⚕️ Men nurses Whoever saves lives must be protected. Not attacked. #enfermagemeuvalorizo #DiaDoEnfermeiro[g]	Followers: 132,948 Likes: 90 Shares: 27
9	Patricia Pillar ✔	#lutecomoumaenfermeira #auxilioprasaudeja	Followers: 128,266 Likes: 80 Shares: 3
10	Jaques Wagner ✔	I am married to a nurse and I have in Fatima a daily example of the nobility of this office, characterized by dedication and care for others. #DiadaEnfermagem #12demaio #LuteComoUmaEnfermeira #EnfermagemEuValorizo #SenadorDeTodosNós #JaquesWagner[h]	Followers: 94,616 Likes: 18 Shares: 2

Source: Created by the authors.

✔ Verified Account/Public Figure.

In Chart 2, the postings were sorted by the number of interactions about the post, regardless of the number of followers, i.e., higher number of tanned. One of the influencers registered more than 2 thousand likes in one post. Of the influencers listed, six are public figures – have verified accounts (✔) –, and four are profiles of ordinary people. The content of the posts presents, among other subjects: victims of the coronavirus and dead nursing professionals; valuing and claiming rights.

Chart 2 – Ranking of the ten main influencers, according to the number of likes   (continued)

Sequence	Influencer	Post text content	Engagement
1	Lorelay Fox ✔	See Chart 1	Likes: 2,216 Shares: 245 Followers: 213,127

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Chart 2 – Ranking of the ten main influencers, according to the number of likes   (conclusion)

Sequence	Influencer	Post text content	Engagement
2	Nando Reis ✔	See Chart 1	Likes: 643 Shares: 170 Followers: 1,279,856
3	David Miranda ✔	See Chart 1	Likes: 475 Shares: 64 Followers: 330,757
4	Sâmia Bomfim ✔	See Chart 1	Likes: 324 Shares: 24 Followers: 288,016
5	line	To choose health as a profession is to choose solidarity, self-giving and love for others. ❤🩺 Very grateful to be walking to be a great professional! #LuteComoUmaEnfermeira #diadaenfermagem	Likes: 288 Shares: 29 Followers: 3203
6	Jussara	Almost 900 Brazilian lives lost to #coronavirus and along with the nursing professional lives that are in the front line. #12demaiodiaInternacionaldoEnfermeiro we are in mourning for Brazil. Homage to the dead nursing professionals. #LuteComoUmaEnfermeira	Likes: 282 Shares: 88 Followers: 10
7	Cida Falabella	I am very proud and grateful for the determination of these workers who risk their lives to defend ours. They don't deserve only applause, but valorization and rights. Nurse Vanda's fight is our fight! Indigenous lives matter! #LuteComoUmaEnfermeira	Likes: 231 Shares: 46 Followers: 18.659
8	Erika Kokay ✔	See Chart 1	Likes: 229 Shares: 57 Followers: 152.939
9	Benedita da Silva ✔	📢 DIRECTLY FROM BRASILIA! With a giant puppet, demonstrators make ACT IN SOLIDARITY to the families of the 12 thousand dead as a result of covid-19, in Brazil, AGAINST Bolsonaro and ask for more investment in health. #LuteComoUmaEnfermeira #diainternacionaldaenfermagem #EnfermagemEuValorizo	Likes: 228 Shares: 64 Followers: 74.950
10	ana banana	May 12 - International Nursing Day Sorry, but I'm going to praise this incredible and extremely needed area of the health team #LuteComoUmaEnfermeira #EnfermagemEuValorizo	Likes: 221 Shares: 45 Followers: 163

Source: Created by the authors.

✔ Verified Account/Public Figure.

Discussion

Social media monitoring has become increasingly important for several areas of knowledge, and measuring online engagement has an impact on critical analysis and scientific evidence in the field of digital health studies[12-14].

Thus, it is necessary that Nursing conceives the reality of the engagements in the social platforms as a phenomenon of post-modernity that influences the dissemination of information that can, of course, reflect on the social representations constructed and maintained on the causes of the profession[15].

In the present study, it was observed a predominance of posts using mobile devices, with greater participation of users located in the Southeast region of the country. Thus, the use of mobile devices connected to the Internet accelerates the dynamics of information in groups that amplify themselves through the hahstags in their hyperlinks, and gather people with common content interests[15-16].

These new forms of interactions can, as the results show, be used to amplify communication and favor interactions between people/profiles of social media. In fact, it is possible to reach global or capillarized reaches in various contexts of a country with continental dimensions, such as Brazil.

The use of these platforms is also permeated by interests that move politics and leadership issues in international and national spheres. In this sense, in the last elections, in different contexts, they have been widely used as tools to boost or disqualify political trajectories through the dissemination of fake information and fake news[15].

In the context and findings of this study, among the terms related to the hashtags under analysis, it is highlighted that the publications with labor rights claims focused on the demands of nursing professionals. Furthermore, it is necessary to contextualize Nursing in a perspective of the sociologies of professions that involve historical, cultural and social issues that branch out into gender, political and power relations.

In this way, it is necessary to understand the nuances that involve power relations, class and gender struggles, in order to provide the engagement of nurses in the fight for rights and, consequently, to achieve the recognition of the profession, the change in legislation, the improvement of the quality of life of the worker and the cultural transformation for its valorization[17].

The International Council of Nursing (ICN) has been concerned about the number of nursing professionals infected and dying by COVID-19. On June 3, 2020, the organization published a statement in which it pointed out that, according to the data collected, more than 230,000 nurses and health professionals had already contracted the disease and more than 600 nurses died from the virus[18].

According to COFEN and ICN, Brazil is the country with the highest number of deaths by COVID-19 among nurses and health professionals in the world. In a survey conducted until May 26, 2020, Brazil had registered 157 deaths of nursing professionals, ahead of the United States, which registered 146 deaths and the United Kingdom with 77 deaths[6,18]. However, this number has been increasing in Brazil, and on November 2, 2020, the Observatory of Nursing, which is a platform created by COFEN to monitor and disclose suspected or confirmed cases of professionals infected by COVID-19, registered 41,926 reported cases and 454 deaths.

The high number of deaths among nursing professionals in relation to other countries highlights the importance of the discussion on the valorization of health professionals in view of the working conditions of the category in Brazil. This is because, since the beginning of the pandemic, the Nursing Councils received more than 7,000 complaints about the lack of IPE and work overload associated to professional under-dimensioning[19].

Therefore, it is important to emphasize that to reduce the impacts of this disease, in order to guarantee the adequate quantity and quality of health professionals in the fight against COVID-19, it is necessary to anticipate care

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related to disease prevention and health promotion of these workers in this context[20].

It is worth mentioning that the female nurses, technicians and auxiliary nurses are mostly women. Therefore, they suffer devaluation due to the machismo deeply implanted in the work and power relations[17]. Moreover, the sexist implications in the labor and professional field maintain the ideology that the work performed by women has less value and qualification than the work performed by men.

In this direction, the present study showed that of the subjects published by Twitter users, the most recurrent were exactly the regulation of the working day, the IPE, the fight of COVID-19, the defense of the female labor force and the fight for rights. These topics highlight part of the impacts of the pandemic for these workers. In parallel to the above, in Brazil, the professional category has been demanding, for decades, measures related to the salary floor, reduction of working hours to 30 hours per week, and valorization of the profession, in order to provide adequate conditions for higher quality assistance in several scenarios of Nursing performance, evidencing prevention, promotion, recovery and treatment of health problems in the individual and collective scope of societies[21].

In this sense, in some way, it could be seen that these revindications gained greater visibility in this historic moment that, despite having at its core the whole process of global humanitarian chaos triggered by the pandemic, unleashed a virtual act/campaign in favor of Nursing, which achieved significant repercussion on Twitter. This was observed in view of what the findings pointed out about the participation of influencers, among them public figures, with thousands of followers on Twitter, whose posts had several interactions (likes and sharing) between users of the platform.

From the above, it can be inferred the understanding that the devaluation of Nursing implies in the very fragility of health systems and is based on the perpetuation of culturally reinforced social injustices in the labor scenarios occupied by the category[21]. Therefore, it is

necessary to understand that the current context of the pandemic has brought out, with greater social reach, issues that were already latent in the daily routine of Nursing professionals throughout the country.

It also draws attention to new forms of social mobilization, made possible by the extensive use of information technologies in the daily lives of Brazilians, bringing to light new possibilities to energize the engagement of the population in struggles of similar importance whose visibilities are also fundamental for the construction of a more just society.

Among the study's limitations, it is worth mentioning that the choice of a single social media to monitor the virtual campaign may underestimate the real reach of the campaign, the profile of influencers and its general relevance. However, the option for Twitter is due to the fact that its interface is widely open in data cession[9].

The recenticity of the research method and the absence of previous research on the subject, with the use of technologies and tools used in this study, can also be pointed out as one of the limitations. On this last aspect, one of the explanations for this lack of studies is due to the fact that the researches that employ this type of analysis are more present in the area of Digital Communication, Big Data and Digital Methods[7,9].

Thus, it is an opportunity for the science of nursing, the search for new investigations based on this prism. Finally, the ranking of the ten main influencers and their respective tweets to present the engagement in the campaign was arbitrary, determined *a priori* by the absence of a strict definition of the literature, although it resulted in a good variety of data in all regions of the country.

Conclusion

The realization of the virtual campaign of valuation of Nursing, boosted by hashtags and publications analyzed, obtained important, numerically and relevant visibility for Twitter users in the national territory. In addition, it

presented a great diversity of themes and claims for the profession, evidenced by the terms and frequency of words that presented wide reach of social media on the Internet.

Still, it is necessary to consider the longevity and durability of the interest about these themes and the campaign's claims. Social media and virtual environments tell stories. To break paradigms and change the reality of Nursing is necessary much more than visibility. Making and transforming the story depends, among other factors, on specific articulations of the actors involved in this construction.

In sum, knowing the process of active participation in the media publications on Twitter about the campaign to value Nursing brought to light several battles fought especially in the field of health care, especially in view of the context of illness and the high rate of deaths of these professionals by COVID-19. In this sense, new studies can contribute to a deeper understanding of the repercussion of each of these struggles in the social media and how much can be inferred from the impacts of the use of these technologies for the dissemination of information today.

Thus, this movement of considerable repercussion, triggered by the global context of this pandemic, signals the need to think about measures that can guarantee the breath of these guidelines in order to gain a place on the national political agenda. It is argued that giving visibility to the profession in virtual campaigns, such as the one portrayed here, is a major step forward in terms of raising society's awareness and the possibility of (de)constructing certain social representations. However, it is necessary to advance in the implementation of effective measures, so that the working conditions of the Nursing category are essentially modified, reflecting, in fact, in the valorization of the profession in Brazil.

Collaborations:

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