COVID-19 information exposure and its implications for employees in the health care sector: findings from an online survey

Paulo Bazan, Raymundo Machado de Azevedo Neto, Julia Dias, Vanessa Salvatierra, Liana Guerra, Shirley Lacerda, Edson Amaro Jr, Elisa Kozasa, Joana Balardin

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Abstract

Background: During the COVID-19 pandemic, the massive delivery of rapidly changing information about the science of the disease and its implications on everyday life can place high demands on individuals' abilities to deal with all this information. Professionals working in the healthcare sector are in the spotlight of this scenario.

Objective: In this survey study, our aim was to quickly assess estimates about the sources, type and volume of information these individuals receive, and their feelings related to information processing demands during the pandemic.

Methods: An online cross-sectional questionnaire survey was distributed to employees of a major healthcare provider in São Paulo, Brazil, between April 3-10 2020. Quantitative data were assessed with descriptive statistical analysis. Data from open-ended questions were assessed with word cloud graphs.

Results: A total of 2646 respondents were included in the analysis. Most participants (44.3%) reported having had access to excessive, or close to excessive information about the new coronavirus and 67.6% reported an increase in the average time spent on social media per day (mean increase of 2.46 hours, standard deviation of 4.35 hours). When asked how frequently they consider it is easy to determine the reliability of information, sometimes' corresponded to 43.2% of the answers in contrast to 14.6% responding 'always'. Participant's responses on possible signs of information overload associated with the pandemic indicated that: 31% always or almost everyday felt stressed about the amount of information they had to follow. Among the total of respondents, 80.0% reported experiencing at least one symptom such as headache, eye twitching, restlessness or sleeping difficulty. Participants showing a more negative information–processing style regarding dealing with a lot of information also reported a higher proportion of symptoms than participants that have a positive information-processing style. Similarly, participants that increased their social media access reported higher proportion of symptoms than participants that decreased their social media access during the pandemic. 45.5% respondents reported deliberately reducing their exposure to information about COVID-19. The most common reported reasons for this behavior change were information repetition (77.6%) and fatigue (59.4%).

Conclusions: Our survey provides a description of the ways in which individuals consume COVID-19 related information during the pandemic, and suggests that excessive information exposure and high processing demands may impose psychological distress.

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Conclusion: Our survey provides a description of the ways in which individuals consume COVID-19 related information during the pandemic, and suggests that excessive information exposure and high processing demands may impose psychological distress.

Keywords: COVID-19, social media, information processing, psychological distress

Introduction

Covid-19 pandemic has been extensively covered by traditional and social media channels. The 24/7 TV and radio news broadcasting services and the widespread access to mobile technologies has allowed an unprecedented number of people to be quickly and regularly updated about the crisis. This massive delivery of rapidly changing information about the science of the disease and its

implications on everyday life places high demands on individuals' abilities to deal with all this information[1].

Particularly for those individuals working at the healthcare sector, the information era imposes great challenges for keeping up-to-date with the relevant data[2], and these challenges have gained unprecedented proportions during the current moment. Therefore, the COVID-19 pandemic is an opportunity to further understand health workers' media consumption preferences, information seeking behaviors and its consequences for mental health.

Repeated media exposure to the current coronavirus outbreak may be linked to psychological distress[3]. The idea that media exposure is associated with psychological well-being is not new, as previous reports have shown such association during similar health crises. During the H1N1 crisis, for example, increased information uncertainty and feelings of uncontrollability were associated with increased anxiety[4]. Similarly, a survey study with a nationally representative sample of U.S. residents during the 2014 Ebola outbreak showed that heightened media exposure to Ebola-related stories was associated with increased distress, worry, and impaired functioning[5]. Mapping health care workers' feelings about media coverage during disease outbreaks can then help guiding better communication policies and interventions for psychological well-being in the work environment.

In this survey study, our aim was to quickly assess estimates of COVID-19 related information consumption and its implications for employees from a major healthcare provider while dealing with the crisis in São Paulo, Brazil. Specifically, we assessed the sources, type and volume of information these individuals encounter, their feelings related to information processing demands in response to the pandemic and reported symptoms associated with psychological distress.

Method

Participants

We distributed an online cross-sectional survey to all employees (approximately 14,000 people) from a major healthcare provider in São Paulo, Brazil, between April 3-10 2020. All employees were invited to participate in the study, including “frontline workers” (e.g. all delivering direct patient care, such as physicians, nurses, allied health professionals) and “nonmedical” personnel (e.g. researchers, technicians, administrators, clerical staff, and maintenance workers). Participants were informed of the purposes of the survey (including potential risks and benefits) through electronic consent. The study was approved by the Brazilian National Research Ethics Commission (CONEP number 3.944.446).

Survey development and delivery

The survey was delivered by an institutional e-mail sent on April 3 (Friday) to all employees. Also, a Workplace post used as a remainder was published on April 9, along with an e-banner on the intranet. The April 10 due date for survey replies was stated in all communications. The survey included 15 items, divided into 8 questions (see Supplementary material S1 and S2 for translated and original versions of the questions), in addition to demographic data. We asked about the type (i.e. epidemiology, symptoms, prevention measures, treatment), the sources (i.e. social media

channels, television, radio, e-mail) and the amount (i.e. hours of daily media consumption) of COVID-19 related information participants had been accessing in the previous week.

Feelings related to information processing demands during the pandemic were assessed using questions adapted from a previous USA national survey on information overload[6]. For these questions, respondents used a 1-to-5 Likert-type scale (1 = never; 5 = always) to report, in regard to COVID-19 related information, how often in the previous week 1) they consider it is easy to determine the reliability of information, 2) they feel stressed with all the information they had to keep up to, 3) their institution and, and job role, expect them to do too much information gathering in order to deal with the current situation, 4) having a lot of information helps them making decisions, 5) they feel confident in their ability to use the internet and other communication devices to keep up with information demands in their life, 6) it is easy for them to find the information they need, 7) they consume information despite feeling that they've reached their limits. Other questions addressed participants' physical complaints and behaviour adjustments. All questions were mandatory. The RedCap® platform was used to deliver the survey.

A small pilot study informed the development of the survey, where we had 7 participants (6 females) to test the understandability and acceptability of the questions. Individual qualitative responses from the pilot study were coded focused on helping refine the wording and layout of the questionnaire, and a consensus meeting with the authors of the study was held to prepare the final version of the questionnaire.

Data Analysis

The data analysis focusing on descriptive statistics was carried using R software (https://www.r-project.org/), with the packages: tidyverse, stringr, ggthemes, ggalt, ggstance, here, lemon, table1, gridExtra, ggpubr, factoextra, tm, SnowballC, wordcloud and RColorBrewer.

We received 3217 responses after one week of having sent the questionnaire. We removed participants that did not respond all questions and participants' duplicate responses. Also, participants with incoherent responses (selecting "No Information"/"No symptom"/"I don't know/I rather not respond" and any other answer in questions which allowed multiple answers) were excluded, which resulted in 2646 completed surveys.

We calculated the percentage of respondents by gender, age group, educational level, monthly income and if they have or have not had contact with COVID-19 at work in order to characterize our sample. The percentage of respondents who selected values above 75 in a 0 (none) to 100 (excessive) in an online version of an analog scale was used to characterize the amount of time that participants accessed information about COVID-19. Participants' access to social media was characterized by calculating the difference of time spent per day on social media during the past week and before the pandemic per day, measured by online versions of analog scales (from 0 to 24h). Further, a question directly assessed the reduction COVID-19 information access in the past week, and the reasons for the reduction (for those who did reduce)..

Participants' feelings about the amount of information they had received in the past week were described by the the percentage of responses within alternatives for each of the seven items in the 1-to-5 Likert-type scales. We also calculated the percentage of participants that reported having felt

symptoms of psychological distress. Assessing the symptoms could offer us a less subjective way to evaluate the information exposure effects, allowing deeper exploration of the results. To further investigate how individual differences in information–processing styles regarding participants' feelings about dealing with a lot of information relate to psychological distress symptoms, we split the respondents into two subgroups, based on their responses to question 3 (see supplementary materials S1 and S2). One group was formed by participants with a more positive style (those who selected answers "Having a lot of information available makes my life easier" and/or "I like to have access to as much information as possible") and the other was formed by those with a more negative style (those who selected answers "I fell overload when I have too much information available" and/or "Having to much information available makes my life seems complicated"). Participants who answered "I don't know / I rather not answer" or that selected both types of answers were not included in any of these subgroups.
The frequency of distress symptoms was also examined in relation to changes in social media access (i.e. participants were split into two groups: those who have decreased or increased the amount of access to social media in the past week). The frequencies of each symptom were compared between social media access groups (increased vs. decreased), and also between information-processing style groups (positive vs. negative), using 95% confidence intervals for the difference in proportions.

To further analyze the symptoms reported, we generated a word cloud with text inputted from open-ended responses about "other symptoms". For this, a custom script removed punctuation characters and graphic accents, and transformed words to singular form, using most common Portuguese plural rules (there are exceptions). Then, common stopwords, conjunctions, adverbs and numerals were excluded. The remaining words were listed by their frequency and inspected to correct typos and to combine verb, adjective and noun forms with the same meaning (Ex: "stress" and "stressed"; "anxiety" and "anxious"). After these adjustments, the frequency was recalculated and words that occurred 2 or more times were used to generate a word cloud. For presentation purposes the words were translated to English, but the word cloud of the words in Portuguese is available as supplementary material. All data and code are available upon reasonable request to the corresponding author and approval from the ethics committee.

Results

Demographics

From April 3-10 2020, 2646 surveys were completed. The demographic characteristics of this sample are presented in TABLE 1.
The median age of participants was 37 (range, 19-74) years. Among the total respondents, 2066 (78.1%) were women, 989 (37.4%) had a graduate degree, and 1255 (47.4%) were frontline staff. Most respondents (2078, 78.5%) reported having contact with confirmed or suspect COVID-19 cases at work, and 756 (28.6%) reported changing their work routine in response to COVID-19. The most common change was to partly work remotely from home (414 people, 15.6%).

Sources, type of information and volume of COVID-19 related information

Most respondents (90.1%) accessed COVID-19 information through traditional media channels (TV/ radio), followed by WhatsApp (73.0%), word of mouth (57.0%), e-mail (54.4%), Workplace (47.7%),

Facebook (47.2%), Instagram (40.4%), YouTube (22.1%), Others (10.8%), and Twitter (7.0%). When asked about specific types of information they had received, the most common information was the number of confirmed cases (received by 96.3%) followed closely by prevention measures (94.9%), number of deaths by COVID-19 (94.4%), and symptoms of COVID-19 (91.0%). Possible treatment information was reported by 72.9%, while 8.8% reported other types of information, and 0.2% reported not having received any information about COVID-19.

Table 1. Demographic characteristics of survey respondents (N = 2646)

	Total (N=2646)
Gender	
Female	2066 (78.1%)
Male	580 (21.9%)
Age groups (years)	
< 25	125 (4.7%)
25-34	890 (33.6%)
35-44	1132 (42.8%)
45-54	399 (15.1%)
55-64	94 (3.6%)
>= 65	6 (0.2%)
Education	
Primary education incomplete	1 (0.0%)
Primary education complete/Lower secondary education incomplete	18 (0.7%)
Lower secondary education incomplete/Higher secondary education incomplete	46 (1.7%)
Higher secondary education incomplete/Bachelor incomplete	936 (35.4%)
Bachelor	656 (24.8%)
MBA	824 (31.1%)
MSc	114 (4.3%)
PhD	51 (1.9%)
Monthly income*	
0-1	33 (1.2%)
1-3	728 (27.5%)
3-6	805 (30.4%)
6-9	437 (16.5%)
9-12	198 (7.5%)
12-15	135 (5.1%)
15 or more	310 (11.7%)
Contact with COVID-19 at work	
No	568 (21.5%)
Yes	2078 (78.5%)

*Brazilian minimum wage (R$ 1,045,00)

Next, we sought to characterize how much information about COVID-19 respondents accessed and if they have changed their social media usage during the pandemic. Approximately 44.4% of respondents reported accessing excessive (scores above 75 in a 0 to 100 scale, supplementary materials S1 and S2) information about COVID-19. In addition, most participants (67.6%) increased their daily media consumption (mean increase of 2.46 hours, standard deviation of 4.35 hours), compared to their regular access before the outbreak of the pandemic. Although participants increased their social media consumption on average, 45.5% reported having reduced their access

to COVID-19 information in the past week, mostly due to repetitive information (77.7%), but also to tiredness (59.54%), fear of information content (19.8%), among other reasons (14.0%).

Feelings related to information processing demands during the pandemic

Regarding perceptions and feelings associated with COVID-19 information (Figure 1), many participants' felt stressed about the amount of information they had to follow (always or almost everyday: 30.7%); nevertheless, 24.7% respondents reported to have kept consuming information even after reaching their limit (always or almost always). When asked about how easy it was to determine the reliability of information about COVID-19, most participants answered it was sometimes easy (43.8%). Most participants reported that it was not difficult to find the information they need (never: 39.6%) and that they felt secure about their ability to find the information they need most of the time (always or almost everyday: 59.7%). Once having information available, respondents felt that the information they accessed helped them to make decisions (always or almost everyday: 57.1%), and most of them reported being required by their job or institution to look for information about COVID-19 (always and almost everyday: 60.4%).

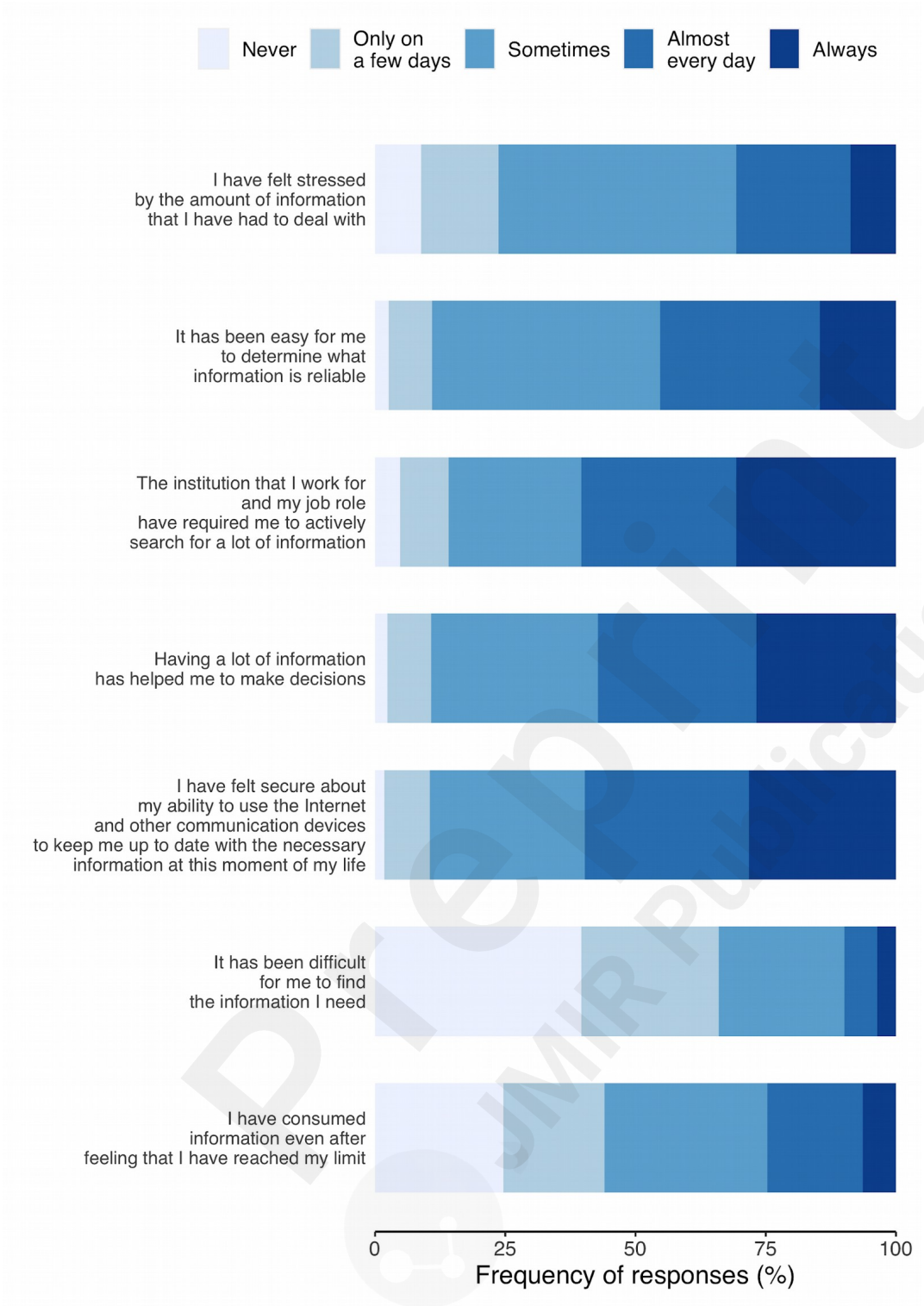

Figure 1. Perception and feelings related to COVID-19 information. Frequency of responses in each of the Likert scale questions, presented as horizontal cumulative plots.

Psychological distress complaints

We asked participants whether they had experienced symptoms associated with psychological distress in the past week. More than half of participants reported having headache (57.9%) and almost half experienced trouble sleeping (49.5%), among other symptoms (Figure 2A). When participants were split into two subgroups according to their different information–processing styles when dealing with a lot of information, results show that participants that have a negative style report a higher proportion of symptoms than participants that have a positive style (Figure 2B; confidence intervals for the difference of proportions test: headache = 10.38–18.71; trouble sleeping = 12.58–21.05%; restlessness, 19.22 – 27.54%; eye twitching = 4.64 – 10.99%; no symptoms = -12.68 – -19.12%; others = 1.44 – 7.21%). In addition, participants that increased their social media access reported higher proportion of symptoms than participants that decreased their social media access during the pandemic, except for eye-twitching and the “other symptoms” alternative (Figure 3C; confidence intervals for the difference of proportions test: headache = 0.01 – 8.25%; trouble sleeping = 6.14 – 14.39%; restlessness = 6.29 – 14.31%; twitch = -0.79 – 5.15%; no symptoms = -2.96 – -9.89%; others = -1.96 – 3.58%).

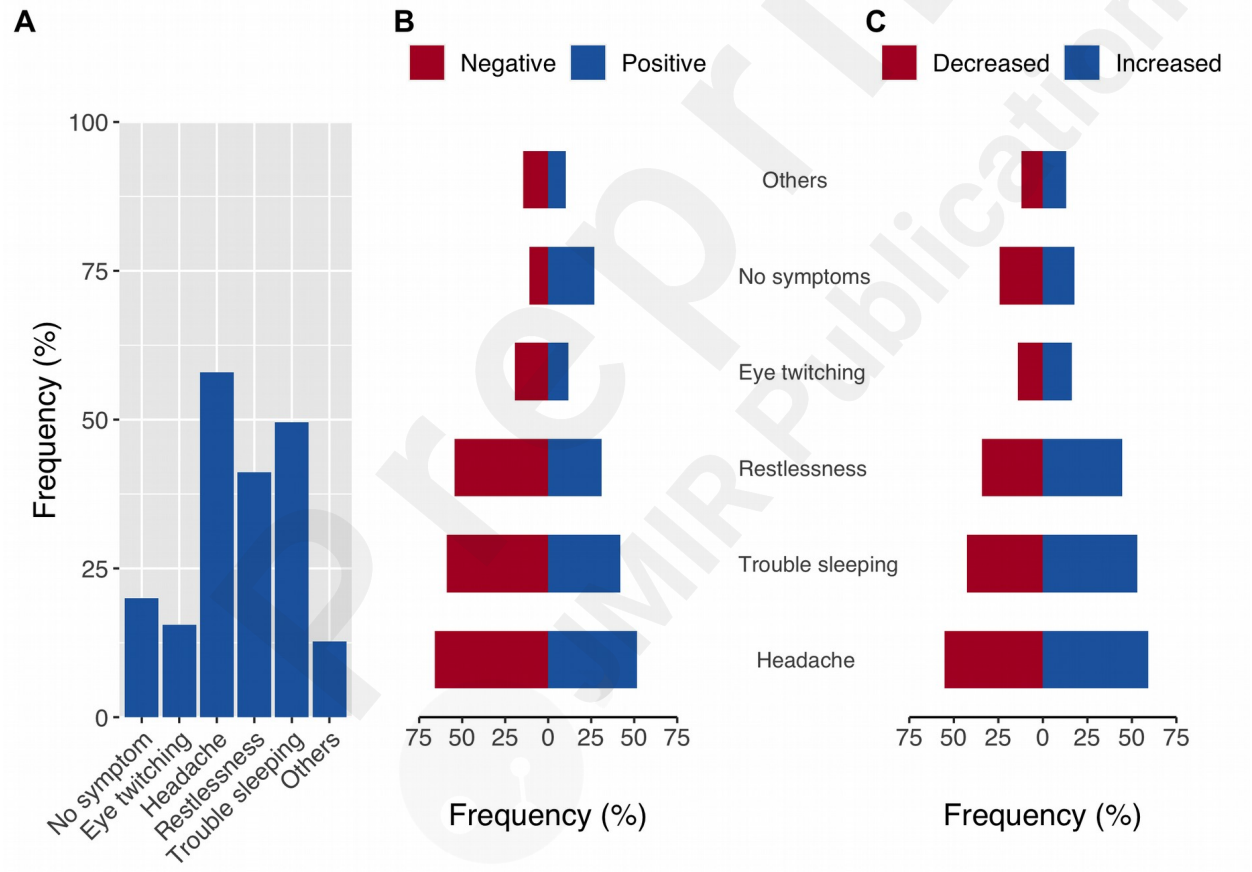

Figure 2. Symptoms prevalence. A) Bar plots of frequency of symptoms considering all participants. B) Symptoms frequency comparing groups with positive and negative information-processing styles, and C)which increased or decreased time spent on social media (i.e. hours of daily media consumption) in the previous week of the survey compared to before the pandemic.

Analyzing the other symptoms reported in the open-ended question, the most common words reported were: pain (used 111 times); anxiety (used 70 times); lack (used 43 times); tiredness (used 34 times) and throat (used 33 times). A word cloud of all words with frequency of two or higher is

presented in Figure 3. It is important to notice that the word pain also includes the idea of “ache”, as the original Portuguese word “dor” can be translated either way, depending on the context it is used. For example, “headache” in Portuguese is “dor de cabeça”, while “back pain” is “dor nas costas”. The same happens for the Portuguese word “falta”, which can mean either “lack”, as in “lack of appetite, or “shortness”, as in “shortness of breath". Supplementary material 3 shows the word cloud of the original words in Portuguese.

Figure 3. Word cloud of symptoms. Word cloud of free text input for respondents who selected the “others” field, when asked about symptoms they had experienced. Words that appeared just once were omitted.

Discussion

This cross-sectional web-based survey with employees of a major healthcare provider in Sao Paulo, Brazil enrolled 2646 respondents and revealed an overall increased average daily exposition to COVID-19 information on traditional and social media channels paralleling an increased frequency of distress symptoms. Most participants were female, the median age was 37 (range, 19-74) years, and most respondents had a high educational level (at least undergraduate course completed). In summary, our findings suggest the ways in which health workers consume COVID-19 related information during the pandemic. Further, results suggest that excessive information exposure and high processing demands may impose distress.

The increased amount of daily media consumption reported by most participants of our survey agrees with theories of mass communication describing the increased reliance of the public on the media during times of uncertainty and crises[7]. Moreover, most respondents also reported they used traditional media channels, such as TV, alongside social media (i.e. WhatsApp), to obtain information about COVID-19. It is possible that a preferential exposure to channels exhibiting graphic content may also be important for the understanding of the health implications of media consumption during disease outbreaks. In the case of the 2013 Boston Marathon bombings, for

example, researchers found an association with increased exposure to graphic images that included blood with heightened posttraumatic stress and fear of the future 6 months after the incident[8]. However, our results also show that an important proportion (45.5%) of participants reported deliberately reducing their access to social media because of factors such as repetitive information and tiredness, suggesting an important role of self-control strategies in regulating information consumption behavior[9].

Responses on possible signs of information overload associated with the pandemic indicated that approximately one third of the respondents felt stressed about the amount of information they had to follow almost everyday or always. Among the total of respondents, more than half reported experiencing at least one symptom such as headache, eye twitching, restlessness or sleeping difficulty, and the frequency of symptoms was higher in participants with a negative bias towards excessive information demands. Also, ache/pain and anxiety were the most common words used by participants in open-ended responses regarding symptoms of psychological distress. Further, the group with increased social media use reported more distress symptoms. Widespread media coverage, alongside with other factors such as the prolonged surge in the number infected cases, the overwhelming workload and insufficient personal protective equipment have been speculated to underlie mental health outcomes in chinese health care workers during the COVID-19 crisis. Moreover, a high prevalence of mental health problems was positively associated with social media exposure in the chinese general population during the COVID-19 outbreak[10]. These findings may contribute to the hypothesis that repeated media exposure to the current coronavirus outbreak may be linked to psychological distress[3]. Findings from our survey, however, indicate that individual differences in information–processing styles regarding participants' feelings about dealing with a lot of information might modulate the perception of psychological distress.

Limitations of our study include the use of a convenience sample predominantly formed by women and the unknown psychometric validity of the survey. Another limitation is related to the fact that subjects changed their media access habits during the evolution of the pandemic, as suggested by the percentage of respondents who reported reducing their access in the week of the survey. Therefore, it is important to notice that the survey was launched 23 days after declaration of pandemic by the World Health Organization (March 11), and 10 days after the start of official quarantine measures in Sao Paulo (March 24). Then, further studies should evaluate the evolution of media access behaviors during pandemic. Nevertheless, taking these limitations into account, the findings of our survey may have implications not only for communication policies but also for interventions promoting psychological well-being in the work environment.

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Conflicts of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Suplementary Materials:

S1 presents the questions used in the survey in Portuguese, and S2 presents them translated to English (S2). Each question and letter items were presented in separate pages, with exception to “A” and “B” items from question 7, totaling 14 pages for this part of the survey, aside from sociodemographic page, informed consent page and a “thanks you” page at the end. All questions on a given page had to be answered be able to advance to the next page and participants could not go back to the previous page. S3 presents the original word cloud of symptoms in Portuguese.

S1. Information processing during COVID-19 pandemic questionnaire. Original Portuguese version.

Questão 1
Na **última semana**, quais informações você obteve sobre a COVID-19? Marque **todas** as opções que forem aplicáveis:

- ☐ Número de casos infectados
- ☐ Número de mortes
- ☐ Sintomas
- ☐ Medidas de Prevenção
- ☐ Tratamentos
- ☐ Nenhuma informação
- ☐ Outras informações
  Quais? _____

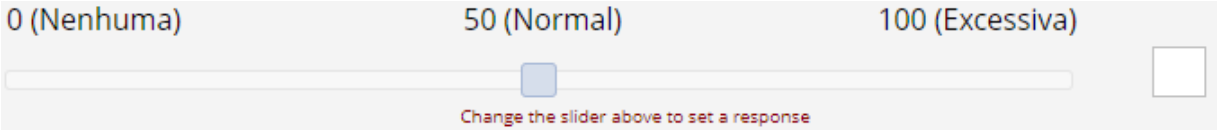
Questão 2
Dos meios de comunicação abaixo, através de quais você tem recebido informações sobre a COVID-19? Marque **todos** que forem aplicáveis:

- ☐ WhastApp
- ☐ Facebook
- ☐ Workplace
- ☐ Instagram
- ☐ Programas de Televisão ou de Rádio
- ☐ Twitter
- ☐ YouTube
- ☐ E-mail
- ☐ Boca a Boca
- ☐ Outros
  Quais? _____

Questão 3
Qual das opções abaixo melhor descreve você habitualmente? Marque **todas** que forem aplicáveis:

- ☐ Ter muitas informações à disposição facilita a minha vida
- ☐ Sinto-me sobrecarregado quando tenho muitas informações à disposição
- ☐ Ter muitas informações à disposição faz minha vida parecer mais complexa
- ☐ Gosto de ter o máximo de informação disponível
- ☐ Não sei/prefiro não responder

Questão 4
Na **última semana**, qual a quantidade de informações sobre a COVID-19 a que tive acesso?



Questão 5
Em relação às informações sobre a epidemia de COVID-19:
A) Na **última semana**, tenho me sentido estressado com todas as informações que tenho para acompanhar.

- Nunca
- Em alguns poucos dias
- Às vezes
- Quase todos os dias
- Sempre

Questão 5
Em relação às informações sobre a epidemia de COVID-19:
B) Na **última semana**, tem sido fácil, para mim, determinar o que é informação confiável.

- Nunca
- Em alguns poucos dias
- Às vezes
- Quase todos os dias
- Sempre

Questão 5
Em relação às informações sobre a epidemia de COVID-19:
C) Na **última semana**, a instituição para a qual eu trabalho, e o cargo que eu ocupo, têm requerido que eu busque
ativamente muitas informações.

- Nunca
- Em alguns poucos dias
- Às vezes
- Quase todos os dias
- Sempre

Questão 5
Em relação às informações sobre a epidemia de COVID-19:
D) Na **última semana**, ter muitas informações tem me ajudado a tomar decisões.
- Nunca
- Em alguns poucos dias
- Às vezes
- Quase todos os dias
- Sempre

Questão 5
Em relação às informações sobre a epidemia de COVID-19:
E) Na **última semana**, tenho me sentido seguro sobre minha capacidade de usar a Internet e outros dispositivos de
comunicação para me manter atualizado com informações que são necessárias para a minha vida neste momento.
- Nunca
- Em alguns poucos dias
- Às vezes
- Quase todos os dias
- Sempre

Questão 5
Em relação às informações sobre a epidemia de COVID-19:
F) Na **última semana**, tem sido difícil, para mim, encontrar as informações de que preciso.
- Nunca
- Em alguns poucos dias
- Às vezes
- Quase todos os dias
- Sempre

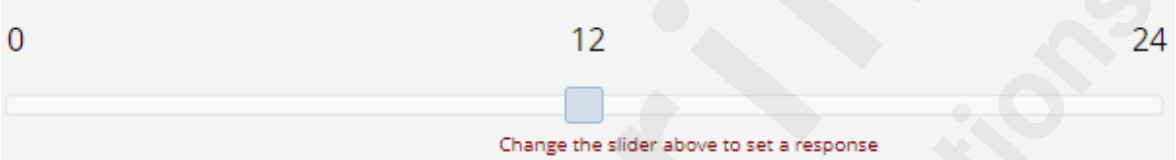
Questão 5
Em relação às informações sobre a epidemia de COVID-19:
G) Na **última semana**, tenho consumido informações mesmo após sentir que cheguei no meu limite.
- Nunca
- Em alguns poucos dias
- Às vezes
- Quase todos os dias
- Sempre

Questão 6
Na **última semana**, você sentiu algum dos sintomas abaixo? Marque **todos** que forem aplicáveis:

- ☐ Nenhum sintoma
- ☐ Espasmos ou contrações nos olhos
- ☐ Dor de cabeça
- ☐ Inquietação
- ☐ Dificuldade para dormir
- ☐ Outros

Quais? _____

Questão 7
A) **Antes da epidemia de COVID-19**, aproximadamente quantas horas por dia você costumava acessar redes sociais?



B) Na **última semana**, quantas horas por dia você acessou redes sociais?

Questão 8
Na **última semana**, você reduziu seu acesso às informações sobre a COVID-19?

- ○ Sim
- ○ Não

Quais dos motivos abaixo fizeram você querer reduzir seu acesso às informações sobre a COVID-19? Marque **todos** que forem aplicáveis:

- ☐ Medo do conteúdo da informação
- ☐ Cansaço
- ☐ Informações repetitivas
- ☐ Outros

Quais?_____

S2. Information processing during COVID-19 pandemic questionnaire. Portuguese version translated to English.

Question 1
Last week, what information did you obtain about COVID-19? Check **all** that apply:
- ☐ Number of infection cases
- ☐ Number of deaths
- ☐ Symptoms
- ☐ Prevention measures
- ☐ Treatments
- ☐ No information
- ☐ Other information
  Which? _____

Question 2
From the media below, through which have you received information about COVID-19? Check **all** that apply:
- ☐ WhastApp
- ☐ Facebook
- ☐ Workplace
- ☐ Instagram
- ☐ Television or Radio programs
- ☐ Twitter
- ☐ YouTube
- ☐ E-mail
- ☐ Word of mouth
- ☐ Other media
  Which? _____

Question 3
Which of the options below best describes you habitually? Check **all** that apply:
- ☐ Having a lot of information available makes my life easier
- ☐ I feel overloaded when I have a lot of information available
- ☐ Having a lot of information available makes my life look more complex
- ☐ I like to have to as much information as possible
- ☐ I don't know /I rather not respond

Question 4
Last week, to how much information about COVID-19 did I have access?

Question 5
Regarding the information about the COVID-19 epidemic:
A) **Last week**, I have felt stressed by the amount of information that I have had to deal with.
- Never
- Only on a few days
- Sometimes
- Almost every day
- Always

Question 5
Regarding the information about the COVID-19 epidemic:
B) **Last week**, it has been easy for me to determine what information is reliable.
- Never
- Only on a few days
- Sometimes
- Almost every day
- Always

Question 5
Regarding the information about the COVID-19 epidemic:
C) **Last week**, the institution that I work for and my job role have required me to actively search for a lot of information
- Never
- Only on a few days
- Sometimes
- Almost every day
- Always

Question 5
Regarding the information about the COVID-19 epidemic:
D) **Last week**, having a lot of information has helped me to make decisions.
- Never
- Only on a few days
- Sometimes
- Almost every day
- Always

Question 5
Regarding the information about the COVID-19 epidemic:
E) **Last week**, I have felt secure about my ability to use the Internet and other communication devices to keep me up to date with the necessary information at this moment of my life.

- ○ Never
- ○ Only on a few days
- ○ Sometimes
- ○ Almost every day
- ○ Always

Question 5
Regarding the information about the COVID-19 epidemic:
F) **Last week**, it has been difficult for me to find the information I need.

- ○ Never
- ○ Only on a few days
- ○ Sometimes
- ○ Almost every day
- ○ Always

Question 5
Regarding the information about the COVID-19 epidemic:
G) **Last week**, I have consumed information even after felling I have reached my limit.

- ○ Never
- ○ Only on a few days
- ○ Sometimes
- ○ Almost every day
- ○ Always

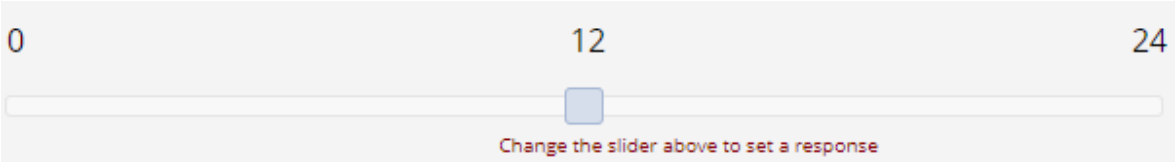
Question 6
Last week, have you experienced any of the symptoms bellow? Check **all** that apply:

- ☐ No symptom
- ☐ Eye twitching
- ☐ Headaches
- ☐ Restlessness
- ☐ Trouble sleeping
- ☐ Other symptoms

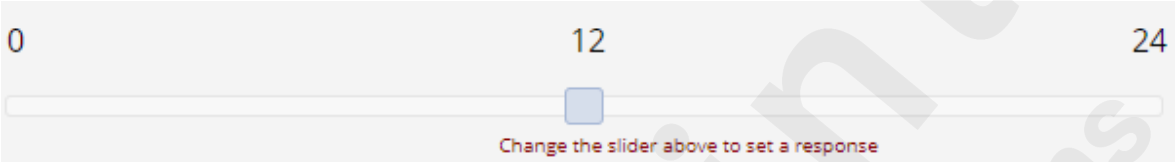
  Which? _____

Question 7

A) **Before COVID-19 epidemic**, approximately how many hours a day did you spend on social media?



B) **Last week**, how many hours a day did you access social media?



Question 8

Last week, did you reduce your access to information about COVID-19?

- ○ Yes
- ○ No

Which of the reasons bellow made you want to reduce your access to information about COVID-19? Check **all** that apply:

- ☐ Fear of the information content
- ☐ Tiredness
- ☐ Repetitive information
- ☐ Other reasons

Which? _____

S3. Word cloud of symptoms in Portuguese. Word cloud of free text input for respondents who selected the “others” field, when asked about symptoms they had experienced. Words that appeared just once were omitted. Words are presented in the original language, Portuguese. Words are presented in singular for and without graphical accents.

Supplementary Files