Public Libraries Fighting Disinformation: An Analysis of Knowledge, Resources, and Actions of Portuguese Librarians

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Abstract. The disinformation fight is global and urgent, making it relevant to train librarians from all walks of life so that they can use its multiplier effect in training strategies for users. In the case of public libraries in Portugal, the actions developed in this regard are unknown. This exploratory study aims to better understand the level of knowledge, practices, and resources available in Portuguese public libraries to combat misinformation. To this end, a questionnaire was created and launched at public libraries in Portugal. The results show a consistent knowledge of librarians on the subject, but still incipient actions to combat disinformation, which anticipates the pressing need to carry out more targeted training for these professionals, as well as to provide pedagogical resources and strategies to encourage learning among populations, which can contribute to achieving a culture of more attentive, integrated and critical citizens.

Keywords: Information literacy · public libraries · disinformation · Portugal

1   Introduction

In August 2018, the International Federation of Library Associations [1] prepared a Declaration on Fake News, expressing its deep concern about the disproportionate public impact that this phenomenon has had on the defense of freedom of expression and access to information, and reinforcing its commitment to free and democratic citizenship, also protected and valued by the United Nations [2]. Any restriction of these freedoms, through censorship or blocking of access to digital resources, the Internet, or the means of social communication, must be prevented, despite the danger posed by the accelerated deregulation of this ecosystem. However, it seems that the public policies promoted by the European Union [3], backed by international agents such as UNESCO [4], IFLA [5], journalists' associations [6], truth lobbyists in the media, and even teachers [7] and society in general, have not been enough.

In recent years, fake news, misinformation, and disinformation have proliferated, despite efforts to raise global awareness about this phenomenon. On the pages of newspapers and social networks, fake news is published that is later denied; in academia, supposedly scientific articles are submitted and subsequently retracted; predatory journals advertise false reviewers, contributing to the spread of pseudoscience; in the context of war, disinformation is an assumed strategy; at the commercial level, deceit and dissimulation seem to be part of the sales business; in the dissemination of daily news, defamation reaches proportions that are difficult to imagine. There is a global impact, verifiable in different quarters [8], from politics to the economy, in society in general, and, above all, in the lives of individuals who are the target of fallacies or lies, and whose damages go far beyond predictions. More harmful, destroying careers, prestige, savings, businesses, families, or companies.

But this catastrophic informational scenario has not deterred those most committed to combating it, who continue with actions in favor of information education, in the sense of protecting the most vulnerable and finding adequate strategies for each context, that is, developing information literacy on different ecologies [9]. Society is mobilizing. In the media, there is an effort to protect journalistic truth, with more and more instruments of regulation and verification of facts being made available [6, 10]. The academy has also been particularly sensitive to this phenomenon, acting preventively in student training, particularly through its libraries, supporting researchers with codes of ethics, and guiding teachers towards good practices in teaching appropriate content [7, 11].

School libraries also develop actions to sensitize young people to be aware of misinformation [12]. However, in the case of public libraries, there seems to be some delay in generalizing proactive measures to resolve the problem. We know that public librarians play a significant role, as they are responsible for mediating access to information, which desirably includes training the population in information literacy.

In the current context, the problems with fake news and disinformation make their action even more urgent, requiring a solid position in tackling this phenomenon, primarily through clarification and training of the population [13]. In the case of academic libraries, some studies show the commitment of professionals in deepening actions and projects to fight disinformation [14], however in Portugal there are no studies on public libraries' activities.

The literature urges decision-makers to put intentions and actions on their policy agenda and highlights the following:

- the importance of increasing the evaluation skills of information sources
- the development of critical thinking to combat disinformation, strengthening citizenship and autonomy of individuals and their creative potential
- the training of proactive critical thinkers based on validated information literacy strategies [15].

However, it requires public library information professionals to be aware of the problem [16], empowered with these skills and competencies [17], and committed to a culture of sharing resources and knowledge around the issue [18, 19]. But how will we know if and how they have met these requirements? This exploratory study aims to better understand the level of knowledge, practices, and resources available in Portuguese public libraries to tackle disinformation.

2 Literature Review

The existence of diversified and abundant information resources, increasingly powerful information management systems, specialized personnel, and a decades-long tradition of supporting users, makes libraries particularly capable of adequately supporting and promoting information literacy development actions [20, 21]. In the current context, where disinformation has become a daily problem, information professionals have diligently developed diversified actions and strategies. However, this objective has been embraced by professionals, in different parts of the world, in different ways [14]. According to Agosto [22], the very nature of information and libraries, the work that is developed there, and the educational propensity of these institutions, make librarians, even those who do not feel inclined towards technologies, the web, or online information, more specialized and able to help the public in these matters, as they better understand how information is produced, distributed and used, knowing how to apply this knowledge to everyday contexts. In a context in which information accuracy and authenticity are sought, the educational profile of libraries gains special relevance in terms of empowering individuals, which enhances spaces in civic communities and encourages better-qualified members to use information critically and sustainably, allowing them to be "more thoughtful future information creators, users, and sharers" [22]. Some studies reveal that the fight against disinformation must be comprehensive, and must serve the most vulnerable audiences, such as the elderly [23]. In the authors' words, "Late adulthood also involves social changes, including greater trust, difficulty detecting lies, and less emphasis on accuracy when communicating. In addition, older adults are relative newcomers to social media and may struggle to spot sponsored content or manipulated images".

Despite serving a very broad community, in addition to people who are usually found in an academic context and have a naturally educational propensity, public libraries have already conquered a place among their users in supporting learning needs [17]. For this reason, and despite the discrepancy that exists in terms of the visibility of actions between public and academic libraries [24], public libraries should boost efforts to disseminate information literacy in the fight against disinformation, actively contributing to a sustained and participatory democracy [8]. In many countries, such as Canada [25], Denmark [26], Australia [27], and the United States [28], information literacy training has been provided by public libraries. In this context, librarians provide instruction aligned with everyday information needs beyond their more general functions and missions, applied to fields as diverse as health, finance, leisure or practical information. They contribute to civic awareness and democratic participation. They also collaborate in the development of technical skills and digital fluency, allowing users greater technological inclusion, and contribute to inclusion by providing comprehensive educational or leisure programs for minorities. But are public librarians prepared to associate information literacy with the fight against fake news and misinformation? The growth of misinformation has meant that some public libraries already provide instruction in these matters [17, 29–32], however, it seems that this trend has not yet arrived in Portugal. Internationally, it is claimed that this role is already being assumed through projects and initiatives that promote awareness of disinformation and support accurate and reliable research and information evaluation practices [33, 34]. Among the strategies, according to Batchelor [35], are the synthesis and transmission of clarifying information, in leaflets, posters, or

research guides, and training, in events, or specific courses. For this author, all methods of promoting information skills and critical thinking skills promoted for awareness about fake news have the potential to have an impact. Even so, these actions seem not to be enough. As mentioned by Lor [36], "Given the evolving media ecosystem and the social psychology of the reception of fake news, antidotes such as correcting misinformation, distributing fake news detection kits, and offering information literacy programs, valuable as they are, will not suffice as remedies". A sustainable intervention will be needed, based on the experience that libraries have, associated with the trust they gain with their public, and combined with the participation of other information mediators and with practical strategies to train critical and interventional information users [37].

Faced with this reality, the ALA issued a reference document [38], which underlines that inaccurate information, distortions of the truth, deliberate deceit, as well as excessive limitations on access, removal, concealment, or destruction of information in the public domain, are anathema to the ethics of library science and the healthy functioning of democracy, and must be eradicated from society. This new resolution recognizes the problems caused by fake news, personalized news feeds, web search algorithms, and other constraints, stating that access to accurate information, rather than censorship, is the best way to combat misinformation and manipulation in social media. In summary, there must be actions and strategies designed around the good use of information, research, and evaluation, which place the fight against misinformation at the center of librarians' intentions. For Weddle [30, p. 8], "while this may be effective in mitigating the damage of misinformation, it requires interest from the affected community, as well as a library or other community center willing and able to provide these resources. I think it is easier for libraries and librarians in the position of experts or parts of an organization to identify a problem (misinformation) than it is for each library user to be motivated to engage in additional information literacy education". In this way, it is important to understand the extent to which Portuguese librarians are committed to this unequal struggle and what resources, strategies, or actions they have taken.

3 Methods

The present study seeks to understand how the fight against misinformation is being waged through the knowledge held, the resources allocated, and the actions and training strategies carried out by librarians of public libraries. It uses mixed methods inquiry (quantitative and qualitative data). To this end, a questionnaire consisting of 12 questions was prepared and distributed via social media of public libraries and by e-mail to the universe composed of 303 public libraries in Portugal. The first part uses descriptive statistical analysis for the closed questions, and qualitative methodology for the second part with the open-ended questions.

The questionnaire concerned the identification of the library; characterization of knowledge of the subject; and good practices in the fight against fake news. It was divided into four parts:

- an introduction, to clarify the content of the questionnaire to the respondents;
- a collection of socio-demographic data to identify the responding libraries;
- the core of the research, with nine questions; and

Table 1. Construction of the applied questionnaire.

Question	Answers
1. Do you believe, as the Director/Head of the Library, that libraries can play a role in the fight against fake news?	Yes/No/DN-DA
2. Based on what techniques or activities do you believe that the phenomenon of disinformation responsible for information bubbles and false news on the Internet could be solved?	- Technology, Internet control mechanisms (fact-checking) - Legislation or regulatory bodies - Training actions integrated into library activities - Collaboration of the Library in carrying out activities of other institutions - All hypotheses presented
3. Do you consider that this issue affects both the news in the media and the dissemination of scientific information?	Yes/No/DN-DA
4. Do you believe that social media enhance the dissemination of non-validated scientific information?	Yes/No/DN-DA
5. Do you believe that library users can be affected by the difficulty in identifying the veracity of information?	Yes/No/DN-DA
6. Do you consider that media and information literacy may be a method of combating fake news?	Yes/No/DN-DA
7. What media and information literacy resources should the Library make available to combat fake news?	- Training courses or specific seminars - Infographics or visual material (eg, IFLA infographic) - Thematic guides and resources aimed at disseminating validation tools - Selection of specialized resources and databases made available by libraries - Information campaigns through social media - Guidance tutorials on information risks/bias - Training on reliable sources of information - Others
8. Does your institution's library plan any activities in this regard?*	Yes/No/DN-DA
9. * If so, what resources are being made available?	
Suggestions and Opinions	
This space is intended for everything that was not considered in this questionnaire and that you think is relevant. Your opinion, doubts, suggestions, and observations are welcome	

- an open question at the end, in case the respondent wants to leave a suggestion or opinion.

The questions that librarians answered are presented in Table 1.

4   Results

4.1   Sociodemographic Characterization

The questionnaire was distributed via social media of public libraries and by email to the universe composed of 303 public libraries in Portugal. A total of 70 libraries representing the following regions participated in this study: North (25.7%), Center (32.9%), Lisbon Metropolitan area (15.7%), Alentejo (8.6%), Algarve (11.4%), and Azores (5.7%) and Madeira (2.9%) islands.

4.2   Quantitative Results (Closed Questions)

In the first question, when asked whether libraries can play a role in combating fake news and misinformation, the majority of the librarians interviewed (98.6%) answered affirmatively.

The second question asked what techniques or activities could be used to solve the phenomenon of misinformation responsible for information bubbles and false news on the Internet. In this regard, librarians favored training actions for users integrated into the library's activities. However, most of them considered all the presented hypotheses relevant, which are also, the use of internet control mechanisms, such as fact checkers, library collaboration with other entities, and regulatory or legislative actions (Fig. 1).
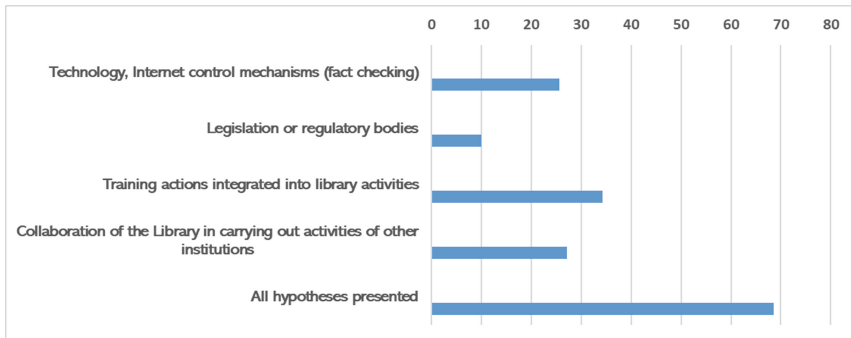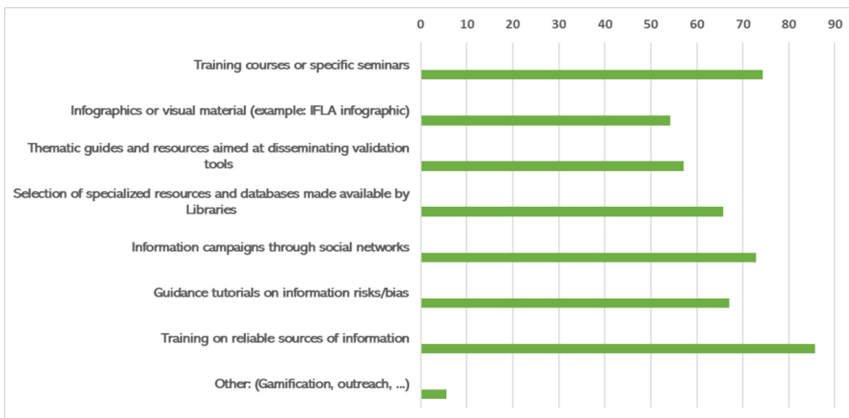

Fig. 1. Percentages of answers to the question: What techniques or activities could be used to solve the phenomenon of misinformation?

In the following block of questions, we tried to verify what opinions public librarians have regarding the influence of misinformation, whether in the dissemination of scientific information; both the use of social networks, but also how users can be affected by fake news, and finally, whether media and information literacy can be an appropriate means of combating this phenomenon. As may be seen in Fig. 2, there is a great deal of consensus regarding this influence, which confirms that librarians are sensitive and alert to this subject.

Questioned about the resources made available by libraries to combat fake news and misinformation, librarians were also very consistent in their answers, pointing out that practically all the options presented were also important, as shown in Fig. 3.
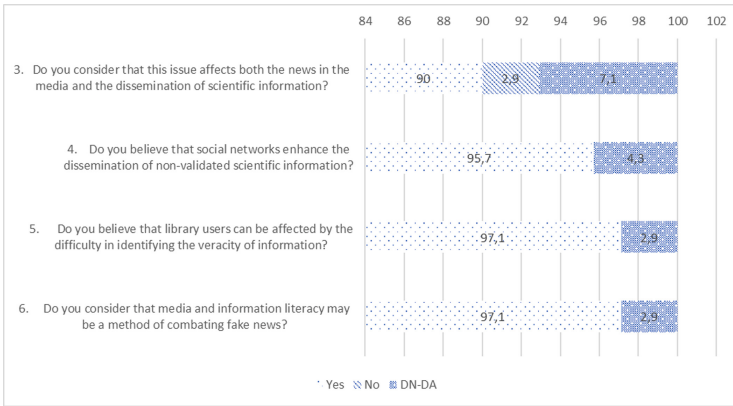
Fig. 2. Percentages of answers to the questions about the opinion public librarians have regarding the influence of misinformation.

Fig. 3. Percentages of answers to the question: What media and information literacy resources should the Library make available to combat fake news?

However, the results are not so encouraging when asked if the library has any planned activities in this regard. Here, most respondents say no (58%), with 14.3% not knowing and only 27.1% responding positively. For positive answers, it was asked what resources are being used: training (27.2%), information resources (7.1%), and communication materials/social media (4.2%). These results reveal the important focus on training.

4.3 Qualitative Results (Open Question)

In the open question about how to develop this training for users, the information professionals presented some ideas and strategies on how to ensure the effectiveness of the intervention identified in the previous question. Regarding this idea, and despite the few answers, it could it be that library neutrality-related mindset of librarians, which has also

been discussed in some recent studies, have influenced this discourse. In fact, it seems that none of this present great innovation or breakthrough suggestions:

(a) "It would be important that library and documentation managers but also technicians have training in this area"
(b) "It is necessary to make available credible sources of information that counteract the hegemonic discourse";
(c) "The library must overcome the commonplaces and the univocal vision it carries, it must not reproduce it blindly and it must not be afraid of assuming itself as an alternative. Only then, through the library, the citizen can assume himself as a critical reader of reality in order to better transform it";
(d) "I believe it is important to have more media coverage through other public information services";
(e) "We would like to receive help on good practices to be adopted in this matter";
(f) "Collaboration with school libraries should be ensured"; and
(g) "The library must responsibly accompany its users, thus ensuring their healthy growth as citizens".

Although mentions like "counteract the hegemonic discourse" are implicit to public libraries' role, it seems important to librarians that this could be made more explicit in the information use and management. However, in general, the main focus is on strategic investment in regular and ongoing training.

5   Discussion

The results of this diagnostic study show a consistent knowledge of librarians on the subject, but still incipient actions to combat disinformation, which anticipates the pressing need to carry out more targeted training for these professionals, as well as to provide pedagogical resources and strategies to encourage learning among populations, which can contribute to achieving a culture of more attentive, integrated and critical citizens. The results of the librarians' perceptions point to the need for training as a fundamental strategy to combat misinformation. This need is in line with several studies referred to in the literature review [1, 14, 18, 29–32], which stress that fake news is not fought with censorship, but precisely with more news and more training on information sources.

Although libraries considered themselves to be very important agents in developing and supporting strategies to combat misinformation, we found that the strong theme that emerged from responses to the open-ended question in the survey was the need for more training and tools that allow measurements (toolkits) to determine user interests, participation, and reactions. Adding more training and tools will help determine the outcomes of initiatives and will provide information to aid in planning for future initiatives. This approach come somewhat as a surprise as previously in the submission, these "measurement or evaluation tools" were not discussed. When asked to detail user reactions to initiatives, several public libraries indicated that they lacked sufficient expertise as well as measurement and evaluation tools. When asked about the implementation of media and information literacy initiatives, the answers were very weak, with comments such as the following reflecting the lack of skills and methods to measure results: "Due to staffing

problems, we do not do enough follow-up on these initiatives". These considerations, as well as the importance of increasing skills in evaluating information sources; developing critical thinking to combat misinformation, and enhancing citizenship and autonomy of individuals and their creative potential based on validated information literacy strategies mentioned in other studies [11, 13, 14, 17, 29–32]. On the other side, misinformation is a very broad topic, and maybe librarians in public libraries already provide training to fight misinformation (about source critique, for example) without clearly knowing it.

However, it should be noted that this study had some methodological limitations that should be overcome in the future. Namely, it was found that the final sample was derived from non-random sampling, which limits generalization from the study results. Nevertheless, as this study is exploratory in character and the responding libraries reflect diversity in both region and size, the results can be used in future studies as a starting point to examine how public libraries implement initiatives and strategies to combat disinformation.

6   Conclusions

This exploratory study made it possible to map the situation and position of Portuguese public libraries in the fight against disinformation, allowing them to carry out a diagnosis and assess a set of practices, knowledge, and resources that will allow the elaboration of intervention and support programs for library teams. The insights and experiences of librarians gleaned through this study will further develop new ideas and inform future efforts when planning media and information literacy initiatives. The role of public libraries as critical actors in mitigating barriers to media and information literacy points to their continued relevance in a rapidly evolving and changing society.

As the survey results show, those working with libraries value partnerships as a method to maximize offerings by combining the efforts of multiple agencies; however, like many initiatives, partnerships also require staff time to plan and coordinate. Based on these findings, one avenue for further research is on effective methods to extend media literacy services to patrons while minimizing pressure on staff time. Another area that may warrant further research is to what extent staff attitudes and preferences influence the perception of patron interests and the initiatives librarians develop in response.

Further, future studies are recommended to examine how public libraries can modify techniques, structures, and services already practiced in other libraries, such as higher education libraries.

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