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Research practices of the Speech-Language Pathologist in Portugal: Needs, barriers and facilitators

Práticas de investigação do Terapeuta da Fala em Portugal: Necessidades, barreiras e facilitadores

Prácticas de investigación del Fonoaudiólogo en Portugal: necesidades, barreras y facilitadores

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Abstract

Introduction: Speech-language pathologists' (SLPs) research needs and interests have been increasing over the years. **Objectives:** (i) characterize the SLPs' current research autonomy level in Portugal; (ii) characterize the SLPs' desired research autonomy level in Portugal; (iii) characterize the SLP's training needs as well as identify barriers and facilitators of the research practice in Portugal. **Methods:** 86 SLPs completed a questionnaire validated by a panel of experts. The data collection focused on: (i) current and desired research practice autonomy level; (ii) barriers and facilitators inherent to the research practice. **Results:** The current research autonomy levels were significantly lower than the desired

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APM: Study design, methodology, critical review and guidance.
MM, DG, DN, ITR: Methodology, draft of the article and critical review.
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levels (p<0.001). The current autonomy level of conceptualizing a research idea was significantly lower when compared to several tasks, such as defining methodology (p<0.05), data analysis (p<0.001), data processing (p<0.001) and results synthesis (p<0.001). There was no difference in autonomy between a conference communication task and research idea conceptualization task (p>0.05). Most of SLPs reported the need for additional training in order to integrate research into their clinical practice. The main barrier to conducting research was the lack of time (64.5%). The main facilitator suggested was increasing the available time (27.7%). **Conclusion:** SLPs have the desire to have greater autonomy in the research process. The identification of barriers and facilitators may allow a more adequate response to the research competences and needs of SLPs.

Keywords: Research; Speech, language and hearing sciences; Speech-language pathology; Evidence-based practice.

Resumo

Introdução: A necessidade e o interesse na investigação pelos Terapeutas da Fala (TFs) tem sido crescente. **Objetivos:** (i) caracterizar o nível de autonomia atual dos TFs em Portugal em investigação científica; (ii) caracterizar o nível de autonomia desejado dos TFs em Portugal em investigação científica; (iii) caracterizar as necessidades de formação assim como identificar as barreiras e facilitadores de práticas de investigação dos TFs em Portugal. **Métodos**: 86 TFs preencheram um questionário validado por um painel de peritos. A recolha de dados incidiu sobre: (i) nível de autonomia atual e desejado para a prática de investigação; (ii) barreiras e facilitadores inerentes à prática da investigação. **Resultados:** Os níveis de autonomia foram significativamente inferiores aos níveis desejados (p<0,001). A autonomia atual para a tarefa de criação de uma ideia de investigação foi significativamente inferior quando comparada com as tarefas de definição de metodologia (p<0,05), análise de dados (p<0,001), processamento de dados (p<0,001) e síntese de resultados (p<0,001). Não houve diferenças de autonomia entre a tarefa de comunicação em conferências e a tarefa de criação de uma ideia de investigação (p<0,05). A maioria reportou a necessidade de formação adicional para conseguir integrar a investigação na sua prática clínica. A principal barreira para a realização de investigação foi a ausência de tempo (64,5%). O principal facilitador foi o tempo disponível (27,7%). **Conclusão:** Os TFs possuem o desejo de maior autonomia no processo de investigação. A identificação de barreiras e facilitadores encontrados poderão permitir uma resposta mais adequada às capacidades e necessidades dos TFs.

Palavras-chave: Investigação; Fonoaudiologia; Fonoterapia (Terapia da fala); Patologia da fala e linguagem; Prática clínica baseada em evidência.

Resumen

Introducción: La necesidad e interés en la investigación de los Fonoaudiólogos (FAs) está yendo en aumento. **Objetivos:** caracterizar: (i) el nivel actual de autonomía de los FAs en la investigación científica tomando Portugal como referencia; (ii) el nivel deseado de autonomía de los FAs en Portugal en la investigación científica; (iii) las necesidades de formación, así como barreras y facilitadores de las prácticas de investigación de los FAs en Portugal. **Métodos:** 86 FAs completaron un cuestionario validado por un panel de expertos. La recopilación de datos se centró en: (i) el nivel de autonomía actual y deseado para la práctica de la investigación; (ii) barreras y facilitadores de la práctica de la investigación. **Resultados:** Los niveles de autonomía fueron significativamente más bajos que los niveles deseados (p<0,001). La autonomía actual para crear/idear investigación fue significativamente menor en comparación con la de definición de métodos (p<0,05), análisis de datos (p<0,001), procesamiento de datos (p<0,001) y síntesis de resultados (p<0,001). No se encontraron diferencias en la autonomía entre la comunicación en conferencias y crear/idear investigación (p<0,05). La mayoría de FAs informó sobre la necesidad de formación adicional para integrar la investigación en su práctica. La principal barrera investigar fue la falta de tiempo (64,5%). El principal facilitador fue el tiempo disponible (27,7%). **Conclusión:** los FAs desean más autonomía en la investigación. Las barreras y facilitadores identificadas pueden permitir una respuesta más adecuada a las capacidades y necesidades de los FAs.

Palabras clave: Investigación; Fonoaudiología; Logoterapia; Patología del habla y lenguaje; Práctica clínica basada en la evidencia.

Introduction

Over the years, there has been an increasing interest and need to deepen scientific knowledge among Speech-language Pathologists (SLPs)[1]. The professional area of Speech-language Pathology emerged in Portugal in the 1960s, but in recent years it became a proper scientific area. An example of this was the important change that the Speech-language Pathology education underwent in Portugal in 2015. Considering the guidelines of the Higher Education Evaluation and Accreditation Agency (*Agência de Avaliação e Acreditação do Ensino Superior* – A3ES), some educational degrees were obliged to describe their curricular units with a predominantly increase of the speech therapy scientific area, and a decrease in other scientific areas – i.e., language sciences started to have an identical representation relative to social, biomedical and life sciences[1].

In Portugal, the majority of SLPs are involved in research projects[2]. The most frequent research activities they are involved in are the data collection and the development of materials. In Mendes et al.[2], SLPs stressed the importance of research activities in clinical practice. They reported that research contributed, in particular, to the development of the profession, to daily evidence based clinical practice and to enrichment knowledge about the SLPs intervention areas[2].

The majority of SLPs in Portugal have a bachelor (4 years) academic degree. They show motivation for investing on their academic and professional training. They report the need to acquire more training in all therapeutic intervention areas[3]. In Australia, SLPs revealed levels of interest in research exceeding their experience and confidence (i.e., they reported limited experience in most research tasks). Given this, SLPs may have benefit from development opportunities targeting competence in research activities[4]. Schubert (2019) also reported that German SLPs express a need to increase their knowledge about Evidence-Based Practice (EBP)[5].

The scientific community has increasingly valued a EBP approached to provision of clinical services[6–9]. One of the pillars of EBP is the selection by the clinician of the most appropriate literature for his/her clinical practice, giving a prominent role to scientific research[10]. EBP is generally associated with an improvement in the quality and reduction of the intervention time, and the use of more efficient resources, thus providing a greater degree of satisfaction to the patient[11,12]. In this sense, knowledge and practices in SLP have been continuously acquired, improved and altered through research.

Although EBP is considered a gold standard, the procedures and clinical approaches' tested in research based on controlled experimental studies are not always replicable in clinical contexts[13]. This happens due to the high control of variables inherent to a scientific study, the diversity of the study population (or sometimes, poor representativeness of specific clinical subgroups), and the logistical or ethical limitations of implementing certain treatments in clinical practice (e.g., due to frequency/intensity of treatments' limitations). One solution may be Practice-Based Evidence (PBE). In PBE, the clinician asks questions related to a client's clinical care, designs a data collection method within the patient activities, implements this method systematically, analyzes the data and disseminates the results[14]. PBE can be considered an articulation between theoretical knowledge, applied to each case, in which decision-making throughout the intervention is supported by evidence[15]. Therefore, clinical practice is strengthened when clinicians adopt critical thinking and use scientific methods to increase PBE. This translates into better therapeutic results, as well as progression in the scientific field of speech therapy.

In Portugal, the main barriers identified by SLPs for the implementation of EBP are: 1) the lack of time; 2) the impossibility of applying the research results to patient (i.e., in clinical practice); 3) the lack of resources and 4) the lack of support among colleagues[16]. These results are similar to those obtained by other international authors[17,18]. Given the importance of integrating research findings into practice[19], it is considered crucial to deepen the knowledge about the reality of SLPs in Portugal, and identify their perceived needs. It is also crucial to understand the barriers and facilitators to their professional development in the level of scientific research in Speech Therapy.

The current study is a research project of the Innovation and Development Commission (CID) of the Portuguese Society of Speech and Language Pathology (*Sociedade Portuguesa de Terapia da Fala* – SPTF). This is a descriptive and exploratory study. It aims to characterize the current and desired level of autonomy of Portuguese SLPs that perform

research activities. It also aims to describe the training needs and identify the barriers and facilitators of research practices of SLPs in Portugal.

Methods

Sample

The subjects were selected using a non-probabilistic convenience sampling method. Distribution of an online questionnaire was facilitated by the SPTF and the Portuguese Association of Speech-Language Pathologists (*Associação Portuguesa de Terapeutas da Fala* – APTF), via mailing lists and social networks. The inclusion criteria were: (i) having, at least, a bachelor's degree in Speech-Language Pathology (3 years); and (ii) to work in clinical practice in Portugal. After reading and accepting the informed consent, the subjects were invited to complete a questionnaire. This was approved by the SPTF Ethics Committee under reference No. 01/2020.

The questionnaire included questions about sociodemographic data: sex, age, educational level and the number of years of clinical experience as a SLP. The sample consisted of 86 SLPs, six males and 80 females. Male subjects had an average age of 29 years (SD = 2) and female subjects of 33 years (SD = 9). Educational level varied between bachelor's and doctoral degrees. Most of the sample had a postgraduate or master's degree. Professional experience as a SLP varied between 1 and 38 years (M = 10, SD = 8) (see Table 1).

Male subjects were distributed by educational level, also considering the age and years of experience as a SLP. The same description was performed for female subjects (see Table 1).

Table 1. Sample characterization

Subjects		Academic training					Totals
		B (1)	B (2)	PG	Ma	D	
F	N	2	11	37	27	3	80
	Age M ± SD (Min – Max)	49 ± 6 (45 – 53)	28 ± 4 (23 – 32)	31 ± 8 (22 – 62)	36 ± 9 (25 – 55)	37 ± 4 (33 – 40)	33 ± 9 (22 – 62)
	Years of experience M ± SD (Min – Max)	26 ± 6 (21 – 30)	5 ± 4 (1 – 10)	9 ± 7 (1 – 38)	13 ± 9 (4 – 34)	15 ± 4 (11 –19)	10 ± 8 (1 – 38)
Mal	N	0	0	2	3	1	6
	Age M ± SD (Min – Max)	N.A.	N.A.	31 ± 4 (28 – 33)	28 ± 2 (26 – 30)	29 ± 0	29 ± 2 (26 – 33)
	Years of experience M ± SD (Min – Max)	N.A.	N.A.	9 ± 4 (6 – 12)	5 ± 3 (3 – 8)	8 ± 0	7 ± 3 (3 – 12)
Total sample	N	2	11	39	30	4	86
	Age M ± SD (Min – Max)	49 ± 6 (45 – 53)	28 ± 4 (23 – 32)	31 ± 8 (22 – 62)	35 ± 9 (25 – 55)	35 ± 5 (29 – 40)	32 ± 8 (22 – 62)
	Years of experience M ± SD (Min – Max)	26 ± 6 (21 – 30)	5 ± 4 (1 – 10)	9 ± 7 (1 – 38)	12 ± 9 (3 – 34)	13 ± 5 (8 – 19)	10 ± 8 (1 – 38)

Subtitle: F = female; Mal = male; M = mean; SD = standard deviation; Min = minimum; Max = maximum;
B (1) = Bachelor (3 years); B (2) = Bachelor (4 years); PG = postgraduate studies; Ma = master; D = PhD; N.A. = not applicable.

Procedures

The study was submitted to and approved by the SPTF Ethics Committee under reference No. 01/2020. The data were collected through a digital questionnaire consisting of seven sections. For the purpose of this article, only four sections were used: 1) professional and demographic context; 2) current level of autonomy in performing research activities; 3) desired level of autonomy in performing research activities; and 4) open response.

In section 1. *Professional and demographic context*, sex and age were collected. Data about level of educational level and areas of clinical specialization were also gathered.

Section 2. *Current level of autonomy in research activities* included six statements to collect the subject's perception of their autonomy in carrying out research tasks. Responses were collected on a Likert scale rated from 1 ("lesser autonomy") to 5 ("greater autonomy").

Section 3. *Desired level of autonomy in research activities* included six statements about the autonomy that the subject would like to achieve in the future. The statements were classified on a Likert scale from 1 ("lesser autonomy") to 5 ("greater autonomy").

Section 4. *Open response* included five open-ended questions about advantages vs. disadvantages of engaging in research activities, barriers vs. facilitators to engaging in such activities, necessary resources, and additional training required to integrate research into clinical practice.

The first three sections collected quantitative data. The last involved qualitative data. The expected time to complete the questionnaire was 20 minutes.

The questionnaire was validated by six experts. For the selection of experts, the following inclusion criteria were considered: (i) being a lecturer in a SLP degree course at a higher education institution in Portugal; (ii) hold a doctoral degree; (iii) have basic training in SLP and/or relevant areas to the education of SLPs. Each expert filled a form where they evaluated the questionnaire in the following aspects: (i) relevance of each item to the study; (ii) clarity of the language used; and (iii) potential redundancy between sections/items. A section was also created for general comments and suggestions.

Statistical analysis

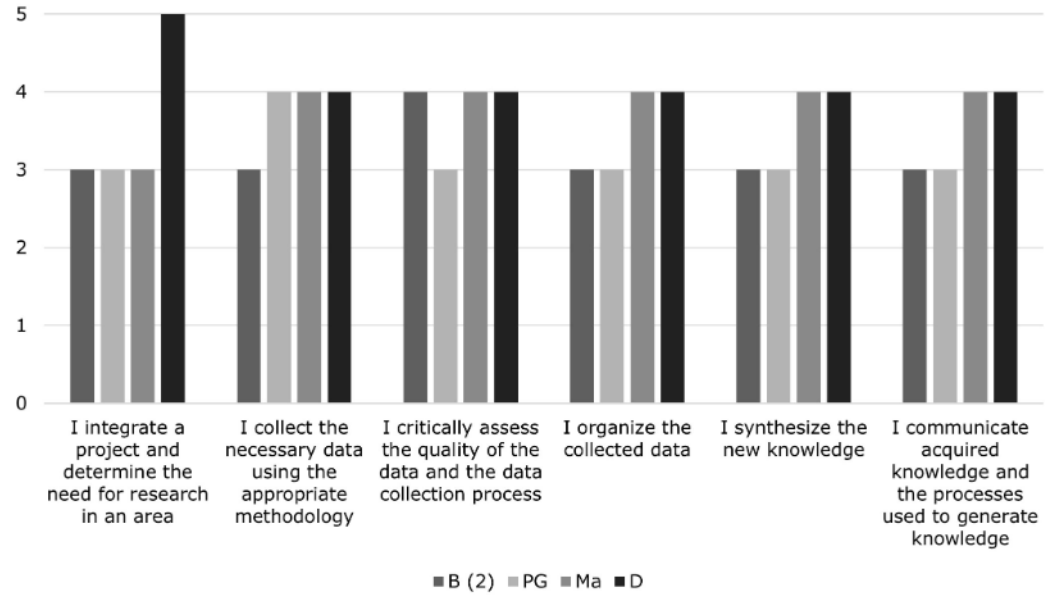
This study comprised quantitative and qualitative research methodologies. The statistical analysis was descriptive and inferential. This was performed through the program R[20].

For descriptive statistics, modes, means and standard deviations, absolute and relative frequencies were calculated. As for inferential statistics, repeated measures ANOVA was used. The factors included in each ANOVA varied according to the different objectives of the study. Student t-tests were also used as post-hoc tests to characterize main effects detected with ANOVAs. *p*-values were corrected for multiple comparisons. Pearson's correlation coefficient (r) was used to analyze the following correlations: (1) age and current level of autonomy; and (2) age and desired level of autonomy. A significance level of 0.05 was considered, with a 95% confidence interval. Finally, a thematic analysis of the open answers section was carried out.

Results

Characterization of the level of current and desired autonomy in carrying out tasks in the research process

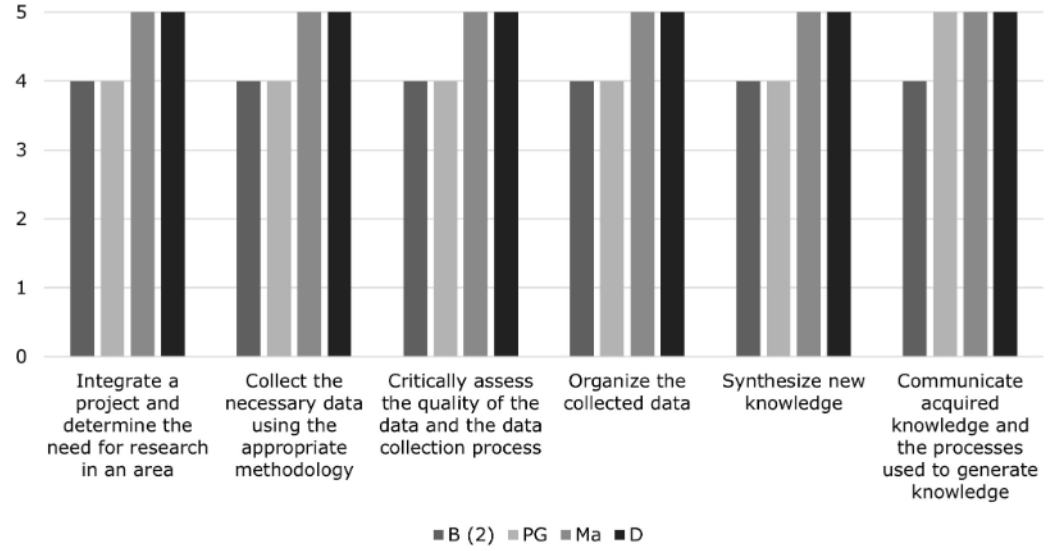
Regarding the current level of autonomy, the descriptive results obtained showed that subjects with master's and doctoral degrees reported the greatest autonomy in carrying out all research tasks. The subjects with a doctorate were the only ones who reported taking part in the following task: "I integrate a project and determine the need for research in a specific area". Figure 1 shows the trend regarding the current level of autonomy in the research process. The different gray tones illustrate the different levels of academic training.



Subtitle: 1 = less autonomy; 5 = greater autonomy; B (2) = Bachelor (4 years); PG = postgraduate studies; Ma = master; D = PhD; Mo = Mode.

Figure 1. Mo values referring to the current level of autonomy in carrying out academic training tasks.

As for the desired level of autonomy, the subjects with master's and doctoral degrees also reported the highest values of desired autonomy for performing research tasks (Figure 2).



Subtitle: 1 = less autonomy; 5 = greater autonomy; B (2) = Bachelor (4 years); PG = postgraduate studies; Ma = master; D = PhD; Mo = Mode

Figure 2. Mo values referring to the level of autonomy desired in carrying out tasks by academic training.

The analysis of variance of the levels of autonomy consisted of a 2x2 ANOVA with the factors of type of autonomy (current vs desired), and the six tasks listed in Figure 2. The results revealed a main effect of autonomy, indicating that the current levels of autonomy were significantly lower than the desired levels ($F(1.1) = 128.4$, $p<0.001$).

There was also a main effect of research task ($F(5.1) = 2.6$, $p<0.05$), indicating that, in some tasks, the level of autonomy was different compared to other tasks. No interaction was observed between the two variables ($F(5.1) = 30.8$, $p = 0.28$). This way, further analyses were computed jointly for both types of autonomy (current and desired), when comparing autonomy across tasks. The subjects considered their current level of autonomy significantly lower for the task of creating a research idea compared to all other tasks, with the exception of the conference communication task (see Table 2).

The subjects' age did not influence the current level of autonomy ($t = -1$, df = 85, $p = 0.3$) and the desired level of autonomy ($t = -1$, df = 85, $p = 0.2$).

Table 2. Analysis of variance about the effect of the current level of autonomy on tasks in the investigation process.

CAL variations x tasks	F	p-value
Idea x Definition of methodology	t(85) = - 3,8	< 0,05*
Idea x Data analysis	t(85) = - 5,8	< 0,001*
Idea x Data processing	t(85) = - 5,1	< 0,001*
Idea x Summary of results	t(85) = - 4,8	< 0,001*
Idea x Conference communication	t(85) = - 2,5	> 0,05

Subtitle: CAL = Current autonomy level; test *Two-way* ANOVA;*p<0,05.

Training needs of SLPs in Portugal

Of the 86 subjects in this study, 46 answered the open answer question, and 43 answers were valid for analysis. Three were considered invalid because their content did not answer the question. The majority of subjects reported the need for additional training to be able to integrate research into clinical practice. 53.5% (23/43) stated that they would need training in clinical research methodology and data analysis. 18.6% (8/43) remarked a need for graduated academic training. Other subjects reported needs for specific training in research applied to clinical practice, among others. Three subjects reported there was no need for additional training (see Figure 3).

Figure 3. Training needs of SLPs in Portugal (n = 43/83).

Identify barriers and facilitators of research activities

In the question about disadvantages of engaging in research activities, 55 valid responses were obtained. Each subject indicated one to three disadvantages of integrating research into clinical practice. The most frequent disadvantage was reduced availability and time management, 52.7% (29/55). Nine subjects reported no disadvantages (see Figure 4).

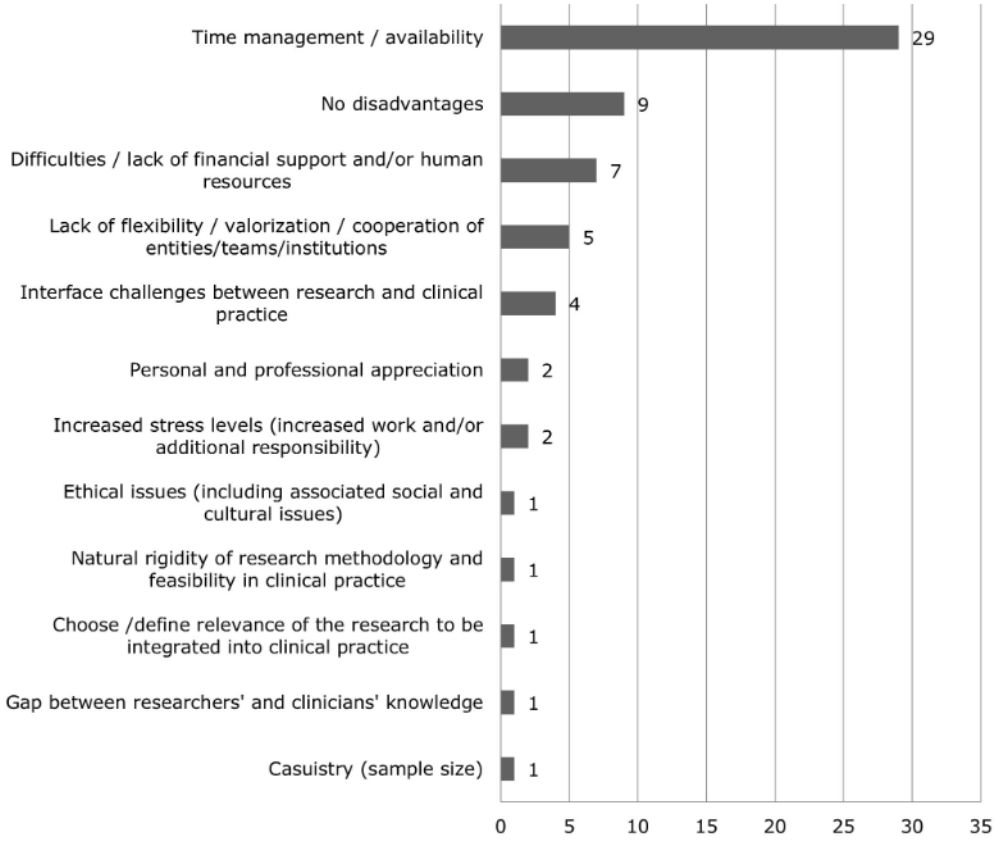


Figure 4. Disadvantages in integrating research into clinical practice (n=55/83).

In relation to barriers to the integration of research activities into clinical practice, 62 valid responses were obtained. The most frequently cited barrier was lack of time (64.5%), followed by financial limitations/reduced economic resources (14.5%), lack of resources and the availability of institutions (14.5%). Subjects also mentioned as barriers the potential difficulty in the research work dissemination, lack of support among clinical SLPs and colleagues that were more closely linked to research, reduced availability and/or interest of the employer for integration of research activities in clinical practice, the excessive clinical workload practice, lack of knowledge within the team to understand how to operationalize research in clinical practice, among others (see Figure 5).

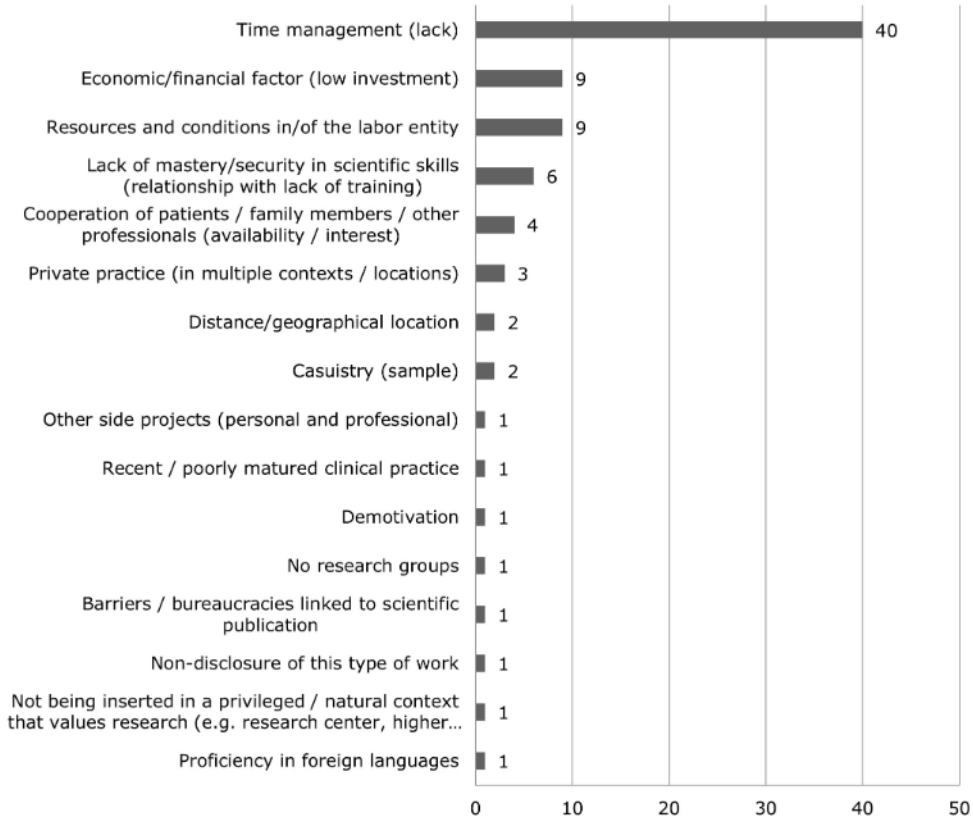


Figure 5. Barriers for integrating research into clinical practice (n = 62/83).

For the identification of advantages and facilitators, 62 responses were obtained, and of these, 61 responses were valid. Each subject indicated one to three advantages in their response. The advantages pointed out were: clinical practice improvement, or more effective clinical procedures, scientific evidence based (47.5%), professional development or professional recognition (34.4%), more clinical practices systematic updating (27.9%), as well as, more and better knowledge of the speech therapy scientific and clinical area (26.2%) (see Figure 6).

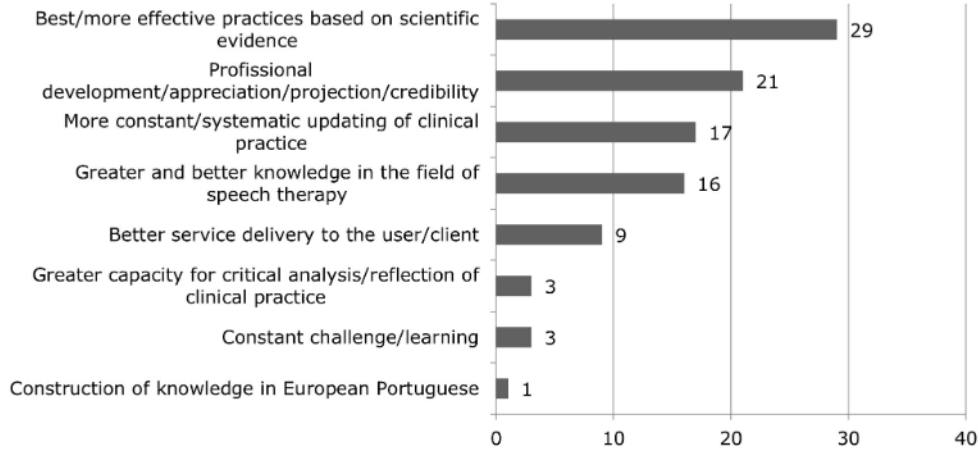


Figure 6. Advantages in integrating research into clinical practice (n = 61/83).

Concerning facilitators for integrating research into clinical practice, 52 responses were obtained, of which 47 were valid. 27.7% (13/47) reported the need to increasing time for research. This was most important facilitating factor effect the (8/47). Other subjects reported that the following factors could facilitate the integration of research activities in clinical practice: financial support (e.g., grants), partnerships with research centers and institutions, such as APTF and SPTF, teamwork, human and computer resources, among others (see Figure 7).

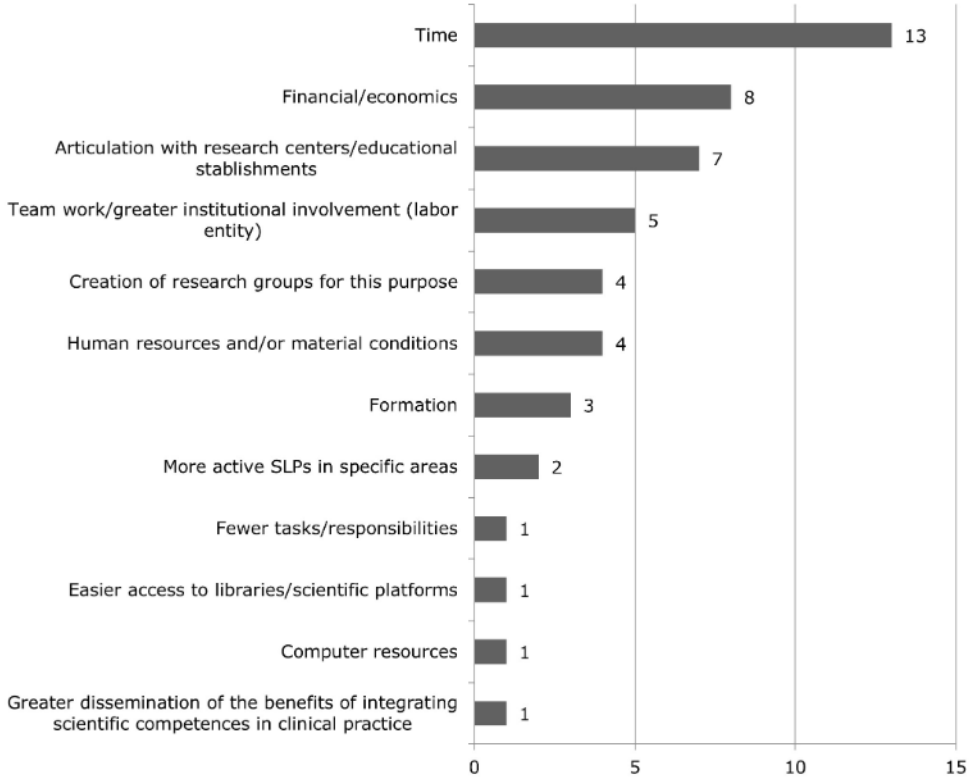


Figure 7. Facilitators of integrating research into clinical practice (n = 47/83).

Discussion

The results show that Speech-language Pathologists (SLPs) want to increase their participation and autonomy in scientific research activities. The weekly workload of SLPs dedicated to scientific research still remains low (9.8%)[2].

The activities in which SLPs are most confident involve the use of scientific literature. The level of confidence decreases when a more active role in the research is requested, as the participation requires greater methodological knowledge, a competence for which they report greater difficulties. These data reinforce the results found by Mendes et al. (2020) who observed that SLPs assessed their own competences related to scientific review and reflective analysis higher than their methodological skills[2].

The active engagement of Portuguese SLPs in research activities has been addressed in previous studies. In 2011, 28% of Portuguese SLPs reported being involved in research projects[3]. In 2020, a higher percentage of participation was revealed (53.5%)[2]. The present study demonstrates that the interest of SLPs in participating in research practices also supports international data. Australian SLPs describe more experience and confidence in performing basic research tasks, such as conducting literature research, and German SLPs reported a need to increase their knowledge of evidence-based practice (EBP)[4-5].

Despite this interest in increasing active participation in research, Portuguese SLPs reported less experience and confidence when addressing complex research tasks, namely, analyzing and interpreting results in addition to publishing scientific data. In line with this result, the SLPs also indicated a need for further training in methodological skills. Given that EBP involves data collection within clinical activities[14], it is crucial that the SLP, responsible for the implementation of these activities has sufficient competence and confidence to take a leading role in defining research methods. In this way, it is possible to articulate theoretical and clinical knowledge[15] while contributing to the growth of the scientific knowledge base in speech-language pathology.

In 2011, Batista reported that the satisfaction of Portuguese SLPs regarding their training in research-related skills was lower when compared to other aspects of clinical training[3]. In recent years, the curriculum under- and graduate plans of the speech therapy degrees have progressively included a greater course load aimed at teaching scientific skills. Nonetheless, the SLPs that participated in the present research noted a need to increase the course load related to research methods. Furthermore, they reported that, for a successful integration of research into their clinical practices they require more specific and more frequent training in research methodologies and statistical analyses applied to clinical practice. The acquisition of more advanced training to improve scientific skills in addition to training and guidelines provided by the Portuguese Association are suggested measures to make integration of research into clinical practice more feasible. All subjects' suggestions pointed to the need for scientific training in order to ensure a more active and autonomous role in research activities. Subjects reported a scarcity of knowledge at the level of research skills. This perception highlights an important factor since Finch et al. (2013) observed that SLPs with higher academic training have a greater participation in research projects[4]. Mansuri et al. (2020) added that academic training is positively related to the EBP skills[21].

As for barriers to the implementation of research in clinical practice, lack of time was reported to be the most prominent factor followed by lack of organizational structure of the institution where the SLP works. These two factors were also reported to be the main barriers as described in a recent study by Greenwell and Walsh (2021)[17]. Along this line of reasoning, a series of enabling measures could be applied to reorganize the teams and resources and facilitate scientific investigation. Nonetheless, a clear tension will continue to exist between the time dedicated to research, and time that is reserved for clinical and administrative activities. A similar tension in nursing led to the creation of the role of *Clinical research nurse consultant*[22]. Clinical research consultants are nurses who are required to have a doctoral degree, but work in a clinical context. They support other nurses to implement Practice-Based Evidence (PBE). It is relevant that the same role could be created in Speech-Language Pathology, thus facilitating the implementation of PBE. This new role would also address the points mentioned by Portuguese SLPs, such as the need for more advanced research training and the time constraints which act as a barrier for involvement in research tasks.

The translation of research competences to clinical practice can provide many advantages, namely: 1) provide a solid evidence base for clinical procedures and contribute to optimize such procedures; 2) highlight the valuable role of SLPs, adding credit to the profession and ensuring that the roles of professionals remain up-to-date with research; 3) benefit the users of SLP services, with the provision of state-of-the-art clinical services; 4) contribute with quantitative and qualitative research advancements to enrich the practices of the scientific research community of SLPs in Portugal; 5) optimize the dissemination of research findings coming from rigorous studies, ensuring the information reaches both specific interest groups and the general population; 6) build clinical scientific knowledge that is relevant and available in European Portuguese; 7) compare clinical practices and ensure uniform implemented practices (e.g., approaches, methods, techniques, and procedures); 8) increase the levels of confidence, autonomy, and self-esteem of the professional class; and 9) contribute to a debate among and between professionals progressively increasing in scientific rigor and robustness.

Limitations

The nature of the sample is a limitation of the present research, as it restricts the generalization of the research findings to the population of SLPs in Portugal. The use of a convenience sampling method also presents limitations, as it can affect

the study's internal and external validity. The data collection instrument and approach (an online questionnaire disseminated through mailing lists and social media), may have biased sampling to target mainly SLPs who use such tools, and thus not encompassing the full heterogeneity of the population of SLPs in Portugal.

Taking in consideration the SLPs perceptions in terms of what they need to actively participate in research it seems relevant to also mention that these perceptions may be highly dependent on access limitations to critical research resources. Therefore, it is suggested that further research inquires how barriers and facilitators may differ between the differ areas of specialization of SLPs. In particular, it may be possible that different clinical contexts and different types of clinical institutions may favor research in different ways. It is proposed that future research explores these potential differences. A more in-depth knowledge of the aforementioned aspects may help institutional entities and their professionals to fill any gaps, both in access to scientific research and the methodology necessary for its production.

Conclusion

Relative to other research competencies, SLPs in Portugal are more confident in the revision of the literature and in reflecting upon research findings. They are able to identify and justify their current needs for active participation in research. SLPs show an interest in increasing their participation and autonomy in research, and in increasing their methodological knowledge. Higher education institutions have a crucial role to facilitate increases in scientific competence, through systematic and early training in research methodology. Furthermore, clinical institutions have an instrumental role in implementing measures and initiatives which can address the barriers reported by Portuguese SLPs.

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