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Original Article

Quality of rehabilitation nursing care for inclusion and accessibility: development of an instrument*

Qualidade dos cuidados de enfermagem de reabilitação para a inclusão e acessibilidade: construção de um instrumento

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ABSTRACT

Objective: to develop and validate the content of the Rehabilitation, Accessibility and Social Inclusion in Nursing instrument. **Methods:** a methodological study involving the development of an instrument containing 33 items, followed by content validation by 110 nurses specialized in rehabilitation using the Content Validity Index. After validation, a reflective process was conducted to identify Nursing diagnoses, interventions and outcomes, culminating in the definition of quality indicators. **Results:** content validation presented a Content Validity Index above 0.90 for all items. The accessibility assessment stood out in the areas of housing (97.3%), outdoor spaces (94.5%) and work environments (91.8%). Quality indicators were developed in the following areas: home adaptation, service accessibility, employment and intervention for persons with disabilities. **Conclusion:** the instrument showed theoretical relevance for the Rehabilitation Nursing practice in the accessibility and social inclusion area. **Contributions to practice:** the instrument guides rehabilitation nurses in promoting social inclusion and accessibility while providing quality indicators for nursing care.

Descriptors: Quality of Health Care; Social Inclusion; Architectural Accessibility; Rehabilitation Nursing; Nursing Care.

RESUMO

Objetivo: construir e validar o conteúdo do instrumento Reabilitação, Acessibilidade, Inclusão Social na Enfermagem. **Métodos:** estudo metodológico com a construção de um instrumento contendo 33 itens, seguido de validação de conteúdo por 110 enfermeiros especialistas em reabilitação, utilizando o Índice de Validade de Conteúdo. Após a validação, realizou-se um processo reflexivo para identificar diagnósticos, intervenções e resultados de enfermagem, culminando na definição de indicadores de qualidade. **Resultados:** a validação de conteúdo apresentou um Índice de Validade de Conteúdo superior a 0,90 para todos os itens. A avaliação da acessibilidade foi destacada nas áreas de habitação (97,3%), área exterior (94,5%) e trabalho (91,8%). Foram desenvolvidos indicadores de qualidade nas seguintes áreas: adaptação habitacional, acessibilidade a serviços, emprego e intervenção na pessoa com deficiência. **Conclusão:** o instrumento demonstrou relevância teórica para a prática de enfermagem de reabilitação na área da acessibilidade e inclusão social. **Contribuições para a prática:** o instrumento orienta a prática dos enfermeiros de reabilitação na promoção da inclusão social e acessibilidade, além de fornecer indicadores de qualidade para os cuidados de enfermagem.

Descritores: Qualidade da Assistência à Saúde; Inclusão Social; Acessibilidade Arquitetônica; Enfermagem em Reabilitação; Cuidados de Enfermagem.

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Introduction

The social inclusion of People with Acquired Physical Disabilities (PwAPD) is a growing challenge in many contemporary societies, making it essential to reduce inequalities and promote social equity[1-2]. Approximately 16% of the global population lives with some form of disability, with a significant proportion acquired during the course of life[3]. In Portugal, the latest Census revealed that 10.9% of the population has at least one disability, with difficulty walking or climbing stairs affecting 6.1% of the population[4].

Acquired disabilities arise throughout the life cycle due to accidents, chronic diseases or the aging process[3,5], compromising people's lives by limiting or preventing their participation in daily activities due to environmental, physical, psychological, sociocultural and political-economic factors[6]. These limitations can lead to social exclusion, increased vulnerability to poverty and marginalization[2,7].

The United Nations Convention on the Rights of People with Disabilities highlights accessibility as an essential principle, defining it as the ability to live independently and fully participate in society[8]. However, lack of accessibility remains a significant barrier, hindering the exercise of fundamental rights such as education, health and employment.

Accessibility encompasses several dimensions: Attitudinal (combating preconceptions), Methodological (adapting teaching/work methods), Instrumental (using adaptive technologies), Communicational (removing communication barriers), Programmatic (reviewing policies and standards) and Architectural (eliminating physical barriers, such as in transportation and buildings)[9].

Thus, the Portuguese Nursing Association emphasizes the social inclusion and optimization of functional capacities of people with acquired physical disabilities, with accessibility as a central element for care practices[10]. Additionally, reflection and adaptation of methods to improve care are highlighted, particularly in "Promoting Social Inclusion"[11].

Nevertheless, there are significant gaps in knowledge and training among nurses regarding the care of PwAPD, considering cultural aspects, beliefs, values and specific needs of this population segment[5]. It was found that, in general, 58.9% of the nurses do not develop interventions to eliminate architectural barriers. Although rehabilitation nurses show greater knowledge about accessibility legislation and barrier removal, the results suggest a disconnection between professional regulations, theoretical knowledge and effective practice, reflecting a common challenge in Nursing's commitment to promoting quality of life, autonomy and independence for all individuals[12].

Moreover, there are no structured instruments to systematize the practice of these professionals, complicating the identification and elimination of accessibility barriers[13]. In the Rehabilitation Nursing context, accessibility is crucial to ensure that people with disabilities can live with dignity, autonomy and independence. Rehabilitation nurses play a key role in identifying and removing barriers that limit participation and social inclusion.

The absence of specific Nursing interventions can result in various barriers that hinder activities of daily living, leading to unemployment, social isolation, depression and reduced quality of life[1,7]. When these aspects are not addressed in the clinical practice, there can be a significant impact on the quality of care provided. Care quality is understood as the compliance degree with predetermined standards and criteria and is assessed through indicators that measure performance and care effectiveness[14].

In this sense, the need to develop a specific instrument to guide Rehabilitation Nursing practices in accessibility and social inclusion becomes evident, aligning the assistance provided with healthcare quality guidelines.

Additionally, it has been shown that implementing quality indicators can significantly improve clinical outcomes and client satisfaction[14]. In this context and combined with data systematization for the Nursing process (including initial assessment, diagnosis

identification, respective Nursing interventions, and evaluation strategies[6]), the proposal of quality indicators for Rehabilitation Nursing care in accessibility and social inclusion provides concrete tools for improving the assistance provided by rehabilitation nurses.

Thus, this study aimed to develop and validate the content of the Rehabilitation, Accessibility and Social Inclusion in Nursing instrument.

Methods

The study adopted a methodological design and was conducted online between March 2022 and January 2023 with specialist nurses from various Portuguese regions.

A non-probabilistic convenience sample was used to select the experts. The inclusion criteria were as follows: nurses specialized in rehabilitation; more than five years of professional experience; practical experience in accessibility or social inclusion; and active members of the Portuguese Association of Rehabilitation Nurses, with valid email addresses.

Invitations were sent to 230 experts using the contact list of the aforementioned Association. Of them, 110 nurses accepted to participate, resulting in a 47.8% response rate[15]. The invitation to participate was sent via email, including a link to access the questionnaire through Google Forms. Before starting the questionnaire, the experts had to provide their free and informed consent to participate. There were no dropouts or refusals after accepting the invitations. The experts were given 60 days to return the completed material, with reminder email messages sent during this period.

The method was structured into three main stages: Integrative literature review, Initial development of the instrument and Content validity assessment by the experts.

Already conducted and published, the integrative review aimed at synthesizing all the available scientific evidence on rehabilitation nurses' role in promoting accessibility and social inclusion. The review results identified applicable norms and theoretical models for the practice and relevant standards and categories for clinical performance, as well as gaps between theoretical knowledge and practice. An important point highlighted was the absence of systematized instruments to guide Nursing practices focused on accessibility and social inclusion[13].

The initial development of the instrument was based on two regulations from the Portuguese Nursing Association: Regulation of Specific Competencies for Nurses Specialised in Rehabilitation Nursing[10] and Regulation of Quality Standards for Specialized Rehabilitation Nursing Care, with emphasis on the "Promoting Social Inclusion" descriptive statement[11].

Additionally, the Model of Life Activities, which adopts a person-centred approach focusing on life activities and influencing factors (including environmental and political-economic issues directly related to accessibility and social inclusion of PwAPD was used. Structuring of the items followed the individualized Nursing process advocated by the care model in use: Initial Assessment, Planning/Execution and Final Assessment[6].

Thus, the initial instrument, called Rehabilitation, Accessibility and Social Inclusion in Nursing (RAISE, in Portuguese *Reabilitação, Acessibilidade, Inclusão Social na Enfermagem*), consisted of 33 items organised into three dimensions: Initial Assessment (10 items related to analysing accessibility conditions in various contexts, such as housing, work and health services), Planning/Execution (18 items addressing Nursing interventions to promote inclusion, such as family training, space reorganization and referrals for social support), and Final Assessment (5 items related to patient satisfaction and improved quality of life).

Prior to formal validation, the instrument underwent a pilot test with five rehabilitation specialist nurses who did not participate in subsequent study phases. They assessed clarity and comprehensibility of the items, providing qualitative feedback. As a result, five items deemed ambiguous were adjusted to ensure greater clarity and interpretation ease.

Content validity was assessed in the final stage. Each expert evaluated the relevance of the instrument's items for promoting accessibility and social inclusion using a four-point Likert scale: (1) Not important; (2) Slightly important; (3) Moderately important; (4) Very important. Additionally, each expert answered a sociodemographic and professional questionnaire containing information such as age, gender, years of experience as a nurse, years of experience as a rehabilitation specialist nurse, academic background and performance area.

For the content validation analysis, we resorted to the Content Validity Index (CVI), which measured the experts' agreement on the representativeness of each item relative to the content. The CVI was calculated using the following formula: (Number of answers rated 3 or 4 / Total number of answers). The cut-off point adopted for including items in the final instrument was CVI≥0.90[16]. Consensus for all items was reached in the first round, eliminating the need for additional rounds.

The IBM SPSS version 29.0 statistical software was used for data analysis. The sample was characterised using descriptive statistics. Regarding the instrument's items, a descriptive analysis was performed by calculating absolute frequencies, mean values and standard deviations to understand the distribution of the experts' answers regarding the importance of the instrument items.

Based on the results from the experts' answers, we conducted a reflective process to align the instrument with the Rehabilitation Nursing practices. This process was based on the analysis of the quantitative results (mean values, standard deviations and CVI) and complemented by discussions among the authors, considering their accrued experience in the rehabilitation field. The reflective stage included identifying initial assessment data and Nursing diagnoses and their respective interventions, as well as final assessment data, using the International Classification for Nursing Practice (ICNP®)[17] as basis. This process allowed structuring the care model into three main stages aligned with the Nursing process: Initial assessment, Planning/Execution and Final assessment[6]. Additionally, we defined quality indicators aimed at promoting accessibility and social inclusion.

The research was conducted in accordance with national and international ethical guidelines and was approved by the Ethics Committee for Research of the Abel Salazar Biomedical Sciences Institute at the University of Porto (Protocol Number 2019/CE/P023(P300/2019/CETI)). All participants received detailed information about the study objectives and purpose and provided their Informed Consent electronically.

Results

The study sample consisted of 110 rehabilitation nurses. Most of the participants were female, with 83 women nurses (75.5%), while 27 were male (24.5%). The participants' mean age was 44.26 years old. In terms of professional experience, they had a mean of 21.38 years of practice as nurses and 9.59 years specifically as Rehabilitation Nursing specialists.

Regarding their academic qualifications, 53 nurses (48.2%) held a Bachelor's degree, 55 (50%) held a Master's degree, and 2 (1.8%) were PhDs. As for their main performance area, most nurses worked in hospital environments (70%), followed by those working in community settings (20.9%). Fewer nurses worked in continuing care units, totalling eight (7.3%), and two (1.8%) worked in other areas.

The RAISE instrument was developed based on a literature review, regulations from the Nursing Order and the Model of Life Activities. After its creation, the instrument underwent a content validation process with experts assessing the relevance and applicability of each item. Content validation was confirmed by the CVI, which showed high agreement among the experts(CVI>0.90).

In the "Initial Assessment" dimension, most experts assigned high importance to evaluating the accessibility conditions across various contexts, particularly housing (97.3%), and the area outside the home (94.5%), the workplace (91.8%) and health services in the residential area (90.0%). All the components evaluated were considered highly important, with mean values ranging from 3.7 to 4.0.

The content validation results show high agreement among the experts, with CVI values above 0.90, highlighting the relevance of these components for rehabilitation practices. Items such as housing accessibility, accessibility of the area outside the home, workplace accessibility and health service accessibility achieved a CVI of 0.99. Employment and workplace adaptation achieved unanimous consensus, with a CVI of 1.0 (Table 1).

Table 1 – Description of the "Initial Assessment" components (n=110). Vila Nova de Gaia, Portugal, 2024

Components	Importance level				Mean	SD	CVI
	Not important n (%)	Slightly important n (%)	Moderately important n (%)	Very important n (%)			
Housing accessibility	–	1(0.9)	2(1.8)	107(97.3)	4.0	0.2	0.99
Accessibility of the area outside the home	–	1(0.9)	5(4.5)	104(94.5)	3.9	0.3	0.99
Accessibility in leisure and sports areas	1(0.9)	–	25(22.7)	84(76.4)	3.7	0.5	0.99
Accessibility in cultural areas	1(0.9)	1(0.9)	31(28.2)	77(70.0)	3.7	0.5	0.98
Accessibility in educational areas or school buildings	1(0.9)	1(0.9)	17(15.5)	91(82.7)	3.8	0.5	0.98
Workplace accessibility	1(0.9)	–	8(7.3)	101(91.8)	3.9	0.4	0.99
Accessibility for physical activity in associations/sports facilities	1(0.9)	1(0.9)	22(20.0)	86(78.2)	3.8	0.5	0.98
Accessibility to public services directly serving citizens	1(0.9)	1(0.9)	19(17.3)	89(80.9)	3.8	0.5	0.98
Accessibility to health services in the residential area	1(0.9)	–	10 (9.1)	99(90.0)	3.9	0.4	0.99
Employment and workplace adaptation	–	–	14(12.7)	96(87.3)	3.9	0.3	1.0

CVI: Content Validity Index; SD: Standard Deviation

The professionals recognized several areas as crucial in planning and executing care for the inclusion and accessibility of PwAPD. All items obtained higher frequencies in the "Moderately important" and "Very important" categories.

The results in the "Planning/Execution" dimension validate the RAISE instrument, as evidenced by CVI values indicating strong consensus among the experts (CVI>0.90). Items such as providing information about health services, buying assistive devices and materials for work performance, referrals to social support and organizations, training family members to assist people with mobility aids and empowering them to overcome minor barriers were unanimously considered extremely important (CVI=1.0). Other items also showed strong consensus, such as training to maintain employment/work adjusted to capacity and advising on proposals for home space reorganization (CVI=0.99) (Table 2).

Table 2 – Description of the "Planning/Execution" components (n=110). Vila Nova de Gaia, Portugal, 2024

Components	Importance level				Mean	SD	CVI
	Not important n (%)	Slightly important n (%)	Moderately important n (%)	Very important n (%)			
Provides information about health services	–	–	7(6.4)	103(93.6)	3.9	0.2	1.0
Provides information about the existence of the National Rehabilitation Institute	1(0.9)	1(0.9)	29(26.4)	79(71.8)	3.7	0.5	0.98
Provides information about the objectives of the National Rehabilitation Institute	1(0.9)	2 (1.8)	34(30.9)	73(66.4)	3.6	0.6	0.97
Provides information about the acquisition of assistive devices	–	–	5(4.5)	105(95.5)	4.0	0.2	1.0
Provides information about the acquisition of materials for work performance	–	–	17(15.5)	93(84.5)	3.8	0.4	1.0
Provides information about the existence of the inclusion desk	1(0.9)	2(1.8)	27(80.0)	80(72.7)	3.7	0.6	0.97
Provides information about the objectives of the inclusion desk	1(0.9)	6(5.5)	26(23.6)	77(70.0)	3.6	0.6	0.94
Provides information about legislation applicable to disability situations	–	3(2.7)	18(16.4)	89(80.9)	3.8	0.5	0.97
Refers to adaptive sports	3(2.7)	5(4.5)	25(22.7)	77(70.0)	3.6	0.7	0.93
Refers to social support	–	–	8(7.3)	102(92.7)	3.9	0.3	1.0
Refers to support organizations	–	–	19(17.3)	91(82.7)	3.8	0.4	1.0
Refers individuals to structures for continuing social inclusion	–	2(1.8)	22(20.0)	86(78.2)	3.8	0.5	0.98
Empowers individuals to maintain employment/work adjusted to their capacity	–	1(0.9)	15(13.6)	94(85.5)	3.8	0.4	0.99
Trains family members to assist individuals with mobility aids	–	–	9(8.2)	101(91.8)	3.9	0.3	1.0
Empowers individuals to overcome minor barriers	–	–	7(6.4)	103(93.6)	3.9	0.2	1.0
Advises on proposals for home space reorganization based on individual capacity	–	1(0.9)	5(4.5)	104(94.5)	3.9	0.3	0.99
Conducts home visits to propose furniture adjustments	3(2.7)	2(1.8)	12(10.9)	93(84.5)	3.8	0.6	0.95
Visits families at their homes to validate acquired learning	3(2.7)	2(1.8)	13(11.8)	92(83.6)	3.8	0.6	0.95

CVI: Content Validity Index; SD: Standard Deviation

The analysis of Table 3 in the "Final Assessment" dimension revealed that most experts consider aspects related to satisfaction with Nursing care (90.9%) and to the individuals' quality of life of (91.8%) as very important. The mean values and standard deviations in this dimension indicate a positive evaluation by the experts. For example, visiting individuals after discharge to validate their inclusion achieved a mean of 3.8 with a standard deviation of 0.5. Additionally, asking individuals/caregivers about difficulties in inclusion achieved a mean of 3.8 with a standard deviation of 0.4.

Content validation of the items in the "Final Assessment" dimension showed that all items achieved CVI values above 0.90, indicating strong agreement among the experts regarding their relevance for promoting accessibility and social inclusion in the Rehabilitation Nursing clinical practice.

Table 3 – Description of the "Final Assessment" components (n=110). Vila Nova de Gaia, Portugal, 2024

Components	Importance level				Mean	SD	CVI
	Not important n (%)	Slightly important n (%)	Moderately important n (%)	Very important n (%)			
Client satisfaction with Nursing care	1(0.9)	3(2.7)	6(5.5)	100(90.9)	3.9	0.5	0.96
Visits individuals after discharge to validate their inclusion	1(0.9)	2(1.8)	19(17.3)	88(80.0)	3.8	0.5	0.97
Asks individuals/caregivers about difficulties in inclusion	–	2(1.8)	14(12.7)	94(85.5)	3.8	0.4	0.98
Applies scales to monitor the evolution of the individuals' social inclusion	–	4(3.6)	12(10.9)	94(85.5)	3.8	0.5	0.96
Evaluates the individuals' quality of life	–	2(1.8)	7(6.4)	101(91.8)	3.9	0.4	0.98

CVI: Content Validity Index; SD: Standard Deviation

These results reinforce validity of the RAISE instrument, confirming its suitability for the rehabilitation clinical practice, with a focus on promoting accessibility and social inclusion.

Based on the consensus areas presented, we developed a structured care process to guide the Rehabilitation Nursing professional practice, as illustrated in Figure 1.

This process was constructed reflectively, identifying relevant data for the initial assessment, such as accessibility conditions and employment status of PwAPD, Nursing diagnoses and respective planning and execution of specific interventions and evaluation strategies aimed at ensuring care quality. Additionally, we proposed quality indicators for Nursing care in the accessibility and social inclusion for PwAPD area. Among the highlighted diagnoses we find "Compromised access to housing and outdoor areas" and "Employment problems," reflecting common barriers faced by PwAPD. The interventions proposed include actions such as advising on home space reorganization, training individuals to overcome barriers and referring them for technical and social support, aiming to promote social and professional inclusion. Finally, the indicators and evaluation strategies (such as quality of life evolution, client satisfaction and adaptation outcomes) provide concrete metrics to monitor the impact of care and to adjust practices, consolidating this instrument as a reference for continuous improvement in Rehabilitation Nursing care.

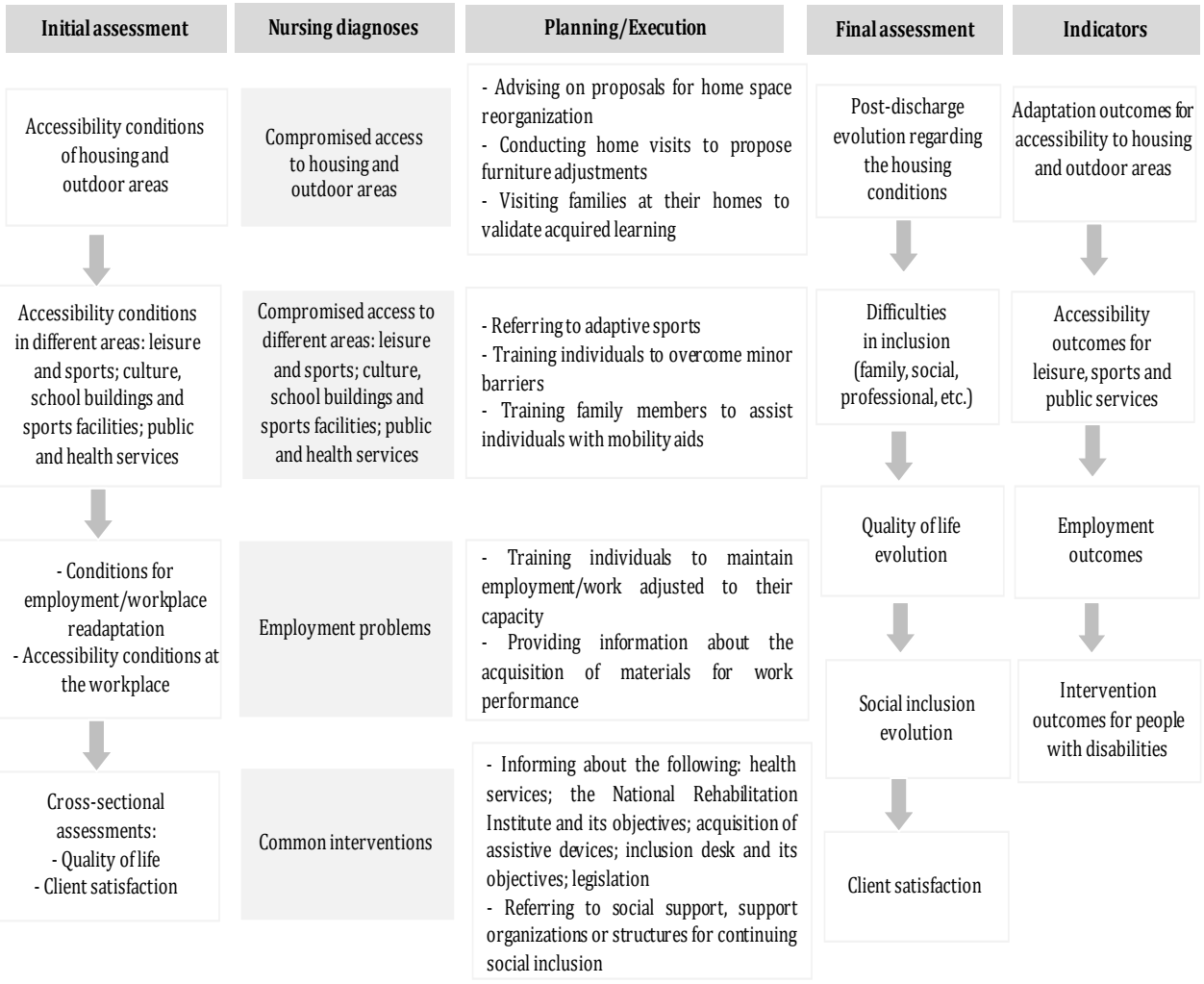
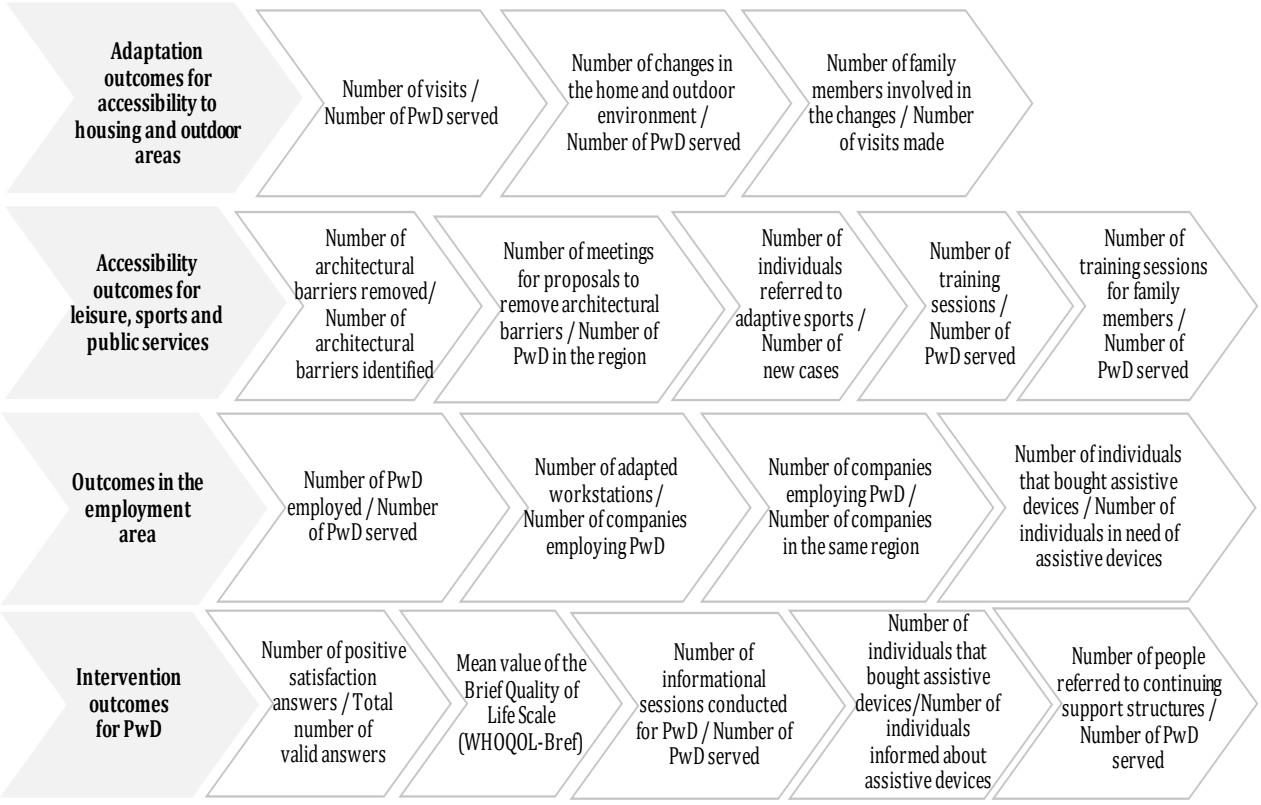


Figure 1 – Nursing care process for the inclusion of people with acquired physical disabilities. Vila Nova de Gaia, Portugal, 2024

The quality indicators presented were developed with the objective of monitoring and improving the Rehabilitation Nursing practice, particularly in promoting accessibility and social inclusion for PwAPD. The indicators were defined based on key areas such as adaptation for accessibility to housing and outdoor areas (evaluation of interventions in the home environment and family involvement in the process, promoting accessible and inclusive environments), accessibility for leisure, sports and public services (monitors removal of architectural barriers, inclusion in adapted activities and empowerment of people with disabilities and their families), employment (monitors integration into the job market through the number of employed individuals, adapted workstations and access to work-related assistive devices) and intervention in people with disabilities (evaluation of client satisfaction, care continuity and impact of the interventions on quality of life).

Figure 2 illustrates the indicators defined for each area, highlighting the systematic approach adopted to measure outcomes sensitive to Rehabilitation Nursing practices. This categorization allows efforts to be directed toward improving the quality of care provided and its impact on social inclusion by identifying areas that require improvement, strengthening evidence-based practice and the quality of care offered.



PwD: people with disabilities

Figure 2 – Quality indicators for the Nursing practice in accessibility and social inclusion. Vila Nova de Gaia, Portugal, 2024

Based on the results obtained in the development and validation of the RAISE instrument, it was possible to develop a care model that guides Nursing practices in promoting accessibility and social inclusion for PwAPD. The high agreement level among the experts ensures that the instrument is appropriately aligned with the practical needs inherent to Rehabilitation Nursing.

Discussion

This study validated intervention areas for rehabilitation nurses, focusing on promoting accessibility and social inclusion for PwAPD. Grounded in a robust care model, development of the RAISE instrument encompassed three essential dimensions: "Initial Assessment" (10 items); "Planning/Execution" (18 items); and "Final Assessment" (5 items). The findings highlight consensus among the experts on priority practices that can guide Nursing care in this area, enabling the identification of Nursing diagnoses and their respective interventions, along with quality indicators.

The identification of Nursing diagnoses based on the ICNP®, such as compromised access to housing and leisure areas, highlights priority dimensions that underpin the planning of Nursing interventions. For instance, widely recognized by the experts, the focus on adapting the home environment and reducing architectural barriers aligns with the literature that emphasises the need for accessibility to promote autonomy and social inclusion[1,18-22]. This diagnosis supports targeted interventions such as reconfiguring home spaces and involving family members, aiming to ensure care continuity after discharge. This is corroborated by strong experts' agreement on items like housing and outdoor environment accessibility, underscoring the literature's reflection on the need for home and outdoor adaptations to ensure mobility and full participation[1,18].

Moreover, operationalising measurable indicators such as number of housing modifications made and number of architectural barriers removed will allow monitoring effectiveness of the interventions. These indicators translate the Nursing process into concrete outcomes, promoting a continuous and evidence-based evaluation. This approach reinforces the practical applicability of the instrument by providing clear parameters for assessing the quality of rehabilitation care.

The emphasis on inclusion in the labour market was recognized as a crucial dimension for social integration and reducing inequalities[7]. Diagnoses related to employment problems guided interventions such as workplace readaptation and training individuals in the use of assistive devices.

These findings highlight nurses' role in providing guidance on rights, resources and strategies to overcome daily challenges, as studies indicate the need for greater dissemination of knowledge about assistive devices and materials that can ease work performance[23-25]. The literature reinforces that access to these resources is vital for individuals to claim their rights and improve their quality of life and autonomy in the workplace and beyond[26-27]. Additionally, evaluating indicators such as number of employed people with disabilities and number of adapted workstations provides objective data that can guide public policies and organisational practices.

Another fundamental aspect was the consensus on empowering PwAPD to overcome physical, communicational and attitudinal barriers, as discussed in the literature[28], reflecting the need for tailored interventions that integrate educational actions and technical support, strengthening the autonomy and independence of this population group.

Empowerment of family members emerged as another consensual intervention among the experts, considering its relevance for care continuity in the home environment. This aspect reflects an integrative view where the family is included in the rehabilitation process, reducing burdens and maximizing rehabilitation outcomes, as evidenced in previous studies[29]. Indicators such as number of training sessions for family members highlight the importance of this involvement in sustaining long-term autonomy in PwAPD.

The continuous assessment of quality of life and social inclusion was highlighted as an essential component to validate the impact of Nursing interventions in real-world contexts. This dynamic and person-cantered approach allows for early and tailored adjustments, promoting better outcomes in the rehabilitation path[2,26,30].

Study limitations

The main limitation of this study is the restriction in generalizing its results, given that the conclusions exclusively reflect the perspectives of Portuguese rehabilitation nurses. For future studies, it is recommended to apply the instrument in different clinical contexts to assess its functionality and efficacy, as well as to validate the quality indicators proposed to evaluate their applicability, effectiveness and impact on improving the quality of Rehabilitation Nursing care.

Contributions to practice

The study enabled the development of the Rehabilitation, Accessibility and Social Inclusion in Nursing (RAISE) instrument, which guides rehabilitation nurses' practice in promoting the social inclusion and accessibility of people with acquired physical disabilities. The implementation of this instrument has the potential to improve the quality of care provided, as it shows high content validity. Furthermore, by integrating initial assessment data, diagnoses, interventions and quality indicators of Rehabilitation Nursing care grounded in evidence-based practice and outcome-oriented approaches, the instrument directly contributes to promoting accessibility and inclusion for this population segment.

Conclusion

It was observed that development and content validation of the Rehabilitation, Accessibility and Social Inclusion in Nursing instrument revealed a Content Validity Index above 0.90 for all items. This confirms its suitability and relevance for the Rehabilitation Nursing practice focused on accessibility and social inclusion. Additionally, defining quality indicators allows the instrument to guide the Nursing process in the Initial assessment, Planning/Execution and Care evaluation stages, strengthening its applicability across different rehabilitation contexts.

Authors' contributions

Conception of the project or data analysis and interpretation and Writing or critical revision of the manuscript relevant to the intellectual content: Pereira RSS, Martins MMFPS. Final approval of the version to be published and Agreement to be responsible for all aspects of the manuscript, ensuring that issues related to the accuracy or completeness of any of its part are properly investigated and solved. Pereira RSS, Martins MMFPS, Pereira AMS, Vargas CP, Antunes L, Lourenço MCG, Machado WCA.

References

1. Goodwin I, Davis E, Winkler D, Douglas J, Wellecke C, D'Cruz K, et al. Making homes more accessible for people with mobility impairment: A lived experience perspective. Aust J Soc Issues. 2022;57(4):956-69. doi: http://doi.org/10.1002/ajs4.214
2. Conley S, Al-Saleh S, Chlan LL. Disability research must be a priority for nurses to advance health equity. Nurs Outlook. 2023;71(3):101986. doi: https://doi.org/10.1016/j.outlook.2023.101986
3. World Health Organization (WHO). Disability [Internet]. 2023 [cited Dec 28, 2024]. Available from: https://www.who.int/news-room/fact-sheets/detail/disability-and-health
4. Instituto Nacional de Estatística (PT). O que nos dizem os censos sobre as dificuldades sentidas pelas pessoas com incapacidades [Internet]. 2022 [cited Dec 28, 2024]. Available from: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques&DESTAQUESdest_oui=588087444&DESTAQUESmodo=2&xlang=pt
5. Benedito MHA, Maia ER, Lacerda JFE, Feitosa JG, Pagliuca LMF. Prototype of a mobile application for cultural self-assessment in nursing care for people with disabilities. Rev Rene. 2024;25:e92837. doi:https://doi.org/10.15253/2175-6783.20242592837

6. Roper N, Logan WW, Tierney AJ. Modelo de Enfermagem. Alfragide: McGraw-Hill; 1995.

7. Shahin S, Reitzel M, Rezze B, Ahmed S, Anaby D. Environmental factors that impact the workplace participation of transition-aged young adults with brain-based disabilities: a scoping review. Int J Environ Res Public Health. 2020;17(7):2378. doi: https://doi.org/10.3390/ijerph17072378

8. Diário da República (PT). Convenção sobre os Direitos das Pessoas com Deficiência. Resolução da Assembleia da República n.º 56/2009, de 30 de julho [Internet]. 2009 [cited Dec 28, 2024]. Available from: https://diariodarepublica.pt/dr/detalhe/resolucao-assembleia-republica/56-2009-493187

9. Pereira RSS, Martins MM, Machado WCA. Enfermagem de reabilitação e a pessoa com deficiência: o caminho para a inclusão social. In: Ribeiro O, Néné M, Sequeira C, editors. Enfermagem de reabilitação: conceções e práticas. Lisboa: Lidel; 2021. p. 430-49.

10. Diário da República (PT). Regulamento n.º 392/2019, de 3 de maio. Regulamento das competências específicas do enfermeiro especialista em Enfermagem de Reabilitação [Internet]. 2019 [cited Dec 28, 2024]. Available from: https://diariodarepublica.pt/dr/detalhe/regulamento/392-2019-122216893

11. Diário da República (PT). Regulamento n.º 350/2015, de 22 de junho. Regulamento dos Padrões de Qualidade dos Cuidados Especializados em Enfermagem em Enfermagem de Reabilitação [Internet]. 2015 [cited Dec 28, 2024]. Available from: https://diariodarepublica.pt/dr/detalhe/regulamento/350-2015-67552234

12. Pereira RSS, Martins MM, Gomes B, Laredo-Aguilera JA, Santos J. The role of rehabilitation nurses to the architectural accessibility promotion. Rev Port Enf Reab. 2018;1(2):66-72. doi: https://doi.org/10.33194/rper.2018.v1.n2.02.4538

13. Pereira RSS, Martins MM, Machado WCA, Pereira AI, Pereira AM, Chesani FH. Nursing care for social inclusion of people with acquired physical disabilities: an integrative review. Rev Port Enf Reab. 2020;3(2):86-95. doi: https://doi.org/10.33194/rper.2020.v3.n2.13.5827

14. Morais EAS, Rojas SSO, Veiga VC. Health indicators in the care for neurocritical patients. Rev Rene. 2014;15(2):189-95. doi: https://doi.org/10.15253/2175-6783.2014000200002

15. Wu MJ, Zhao K, Fils-Aime F. Response rates of online surveys in published research: a meta-analysis. Comput Hum Behav Rep. 2022;7:100206. doi: https://doi.org/10.1016/j.chbr.2022.100206

16. Souza AC, Alexandre NMC, Guirardello EB. Psychometric properties in instruments evaluation of reliability and validity. Epidemiol Serv Saude. 2017;26(3):649-59. doi: https://dx.doi.org/10.5123/S1679-49742017000300022

17. International Council of Nurses. ICNP Browser [Internet]. 2024 [cited Dec 28, 2024]. Available from: https://www.icn.ch/icnp-browser

18. Norin L, Slaug B, Haak M, Iwarsson S. Housing adaptations and housing accessibility problems among older adults with long-standing spinal cord injury. Br J Occup Ther. 2020;84(12):765-74. doi: https://doi.org/10.1177/0308022620979516

19. Clemente KAP, Silva SVD, Vieira GI, Bortoli MC, Toma TS, Ramos VD, et al. Barriers to the access of people with disabilities to health services: a scoping review. Rev Saúde Púublica. 2022;56:64. doi: https://doi.org/10.11606/s1518-8787.2022056003893

20. Kapsalis E, Jaeger N, Hale J. Disabled-by-design: effects of inaccessible urban public spaces on users of mobility assistive devices - a systematic review. Disabil Rehabil Assist Technol. 2022;19(3):604-22. doi: https://doi.org/10.1080/17483107.2022.2111723

21. Silva CS, Pacheco M, Martins MM, Carvalho AE, Pereira RS, Machado WCA. Accessibility of sport buildings for people with disabilities - intervention of rehabilitation nurses. Rev Port Enf Reab. 2019;2(2):27-32. doi: https://doi.org/10.33194/rper.2019.v1.n2.02.4568

22. Carlsson G, Slaug B, Schmidt SM, Norin L, Ronchi E, Gefenaite G. A scoping review of public building accessibility. Disabil Health J. 2022;15(2):101227. doi: https://doi.org/10.1016/j.dhjo.2021.101227

23. Van Dam K, Gielissen M, Bles R, Van der Poel A, Boon B. The impact of assistive living technology

on perceived independence of people with a physical disability in executing daily activities: a systematic literature review. Disabil Rehabil Assist Technol. 2023;19(4):1262-71. doi: https://doi.org/10.1080/17483107.2022.2162614

24. Neiseh F, Dalvandi A, Norouzi Tabrizi K, Mohammadi-Shahboulaghi F, Fallahi-Khoshknab M, Sepahvand E. The consequences of the emancipation process in people with physical disabilities: a qualitative research. Middle East J Rehabil Health Stud. 2023;10(2):e130100. doi: http://doi.org/10.5812/mejrh-130100

25. Hughes RB, Beers L, Robinson-Whelen S. Health information seeking by women with physical disabilities: a qualitative analysis. Disabil Health J. 2022;15(2):101268. doi: https://dx.doi.org/10.1016/j.dhjo.2022.101268

26. Hjelle EG, Rønn-Smidt H, Haahr A, Haavaag SB, Sørensen D, Navarta-Sánchez MV, et al. Filling the gap in service provision. Partners as family carers to people with Parkinson's disease: a Scandinavian perspective. Chronic Illn. 2023:17423953231174470. doi: https://dx.doi.org/10.1177/17423953231174470

27. Jackson CL, Hood E, Jenkins JA, Szanton SL. Barriers and facilitators to nurses addressing social needs and associated outcomes in the ambulatory setting in adult patients: systematic review. J Adv Nurs. 2023;79(7):2444-55. doi: https://doi.org/10.1111/jan.15670

28. Tholl AD, Nitschke RG, Viegas SMF, Potrich T, Marques-Vieira C, Castro FFS. Strengths and limits in the daily life of the adherence to rehabilitation of people with spinal cord injury and their families. Texto Contexto Enferm. 2020;29:e20190003. doi:https://dx.doi.org/10.1590/1980-265X-TCE-2019-0003

29. Hughes RB, Armstrong EJ, Salamone JM, Robinson-Whelen S, Beers LA, Little TD, et al. Evaluation of a health promotion program for women with disabilities: the role of social determinants of health in health promotion. Int J Nurs Stud. 2022;134:104332. doi: https://dx.doi.org/10.1016/j.ijnurstu.2022.104332

30. Organização Internacional do Trabalho. Construindo um futuro inclusivo com trabalho decente: um guia sobre inclusão de pessoas com deficiência no local de trabalho [Internet]. 2022 [cited Dec 28, 2024]. Available from: https://www.ilo.org/global/publications/WCMS_851763/lang--pt/index.htm