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Discharge Planning for Stroke Survivors in Greece: Insights from a Discharge Checklist Pilot Study

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Summary

Background: *Effective discharge planning is crucial in tailoring stroke care to meet the individual needs of patients undergoing rehabilitation. We present an initial endeavor to standardize a checklist tailored for stroke survivors.*

Materials and methods: *A cohort of 30 stroke survivors were examined using the checklist and then a comparative analysis with two control groups: 20 post-COVID-19 patients and 20 non-neurological individuals, matched for age and gender was used to examine the data.*

Results: *Factor analysis revealed that five or more factors are required to adequately explain the variability of responses. The reliability assessment of the tool yielded reasonable outcomes. Our analyses did not yield sufficient evidence to support the influence of demographic factors on responses.*

Notable differences were observed between responses from stroke survivors and those from non-neurological individuals and post-COVID-19 patients, particularly in domains related to accessibility to information and support, considerations regarding information technology, and navigating the healthcare system.

Conclusions: The development and preliminary testing of the modified discharge checklist for stroke survivors offer valuable insights into the discharge planning process. Future steps involve implementing the checklist at regional and national levels to evaluate its effectiveness and utility as a standard of quality care in clinical rehabilitation post-stroke.

Keywords: discharge; transitions; stroke; checklist; after-stroke care

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Introduction

Stroke is the second most prevalent cause of mortality on a global scale, exerting a profound impact on both fatality rates and disability incidence. Current estimations indicate an annual occurrence of over 12.2 million new stroke cases globally, with approximately six and a half million resulting in death. Moreover, more than 101 million individuals live with the consequences of stroke, such as impaired speech or restricted physical abilities. These figures underscore the imperative for comprehensive stroke prevention strategies, treatment modalities, and extensive rehabilitation initiatives on a global front (WSO Global Stroke Fact Sheet, 2022).

Following acute medical intervention in hospital settings, stroke survivors frequently transition to specialized rehabilitation centers to facilitate recovery and restore functional capabilities. Nevertheless, discharge from these facilities does not signify complete recovery. Despite the

implementation of rigorous rehabilitation programs aimed at enhancing cognitive and physical function, many stroke survivors grapple with persistent impairments. Given the enduring challenges encountered by post-rehabilitation stroke survivors, effective discharge planning is important (Burton et al., 2014).

Discharge planning is an important aspect of rehabilitation and stroke care and has implications for the transition to life after stroke (Cott et al., 2007). Empirical evidence underscores the positive association between the quality of discharge planning and various metrics of quality of life (Nunes & Queirós, 2017). Systematic reviews exploring transition models across diverse health conditions have demonstrated that systems incorporating a range of stakeholders or components, and interventions, such as patient education, follow-up visits, medication reconciliation, and care coordination alongside features fostering professional, patient and family learning and self-organization, tend to yield more favorable transitions (Chokshi & Chang, 2014; Penney et al., 2018).

Despite recognition that discharge planning should be a priority, there are reports that this is not always the experience, including for stroke survivors (Hersh, 2009; Arora et al., 2010; Hersh & Armstrong, 2020; Chen et al., 2021; Rose et al., 2019). Consequently, there exists a pressing imperative for enhancing discharge planning endeavors to ensure holistic and supportive transitions for stroke survivors reintegrating into their communities (Cott et al., 2007; Wood et al., 2010). Cultivating collaboration during discharge planning between clinicians and stroke survivors and their caregivers is important for enhancing functional outcomes throughout the rehabilitation journey (Wood et al., 2010; Vidal, 2014).

The World Health Organization has emphasized the need to improve communication during transitions of care, noting that the lack of standardization contributes significantly to medical errors. Adapting and translating checklists is crucial in addressing these issues (Integrated Health Services (IHS), 2017). Our study constitutes a pilot investigation aimed at validating an interactive tool for discharge planning in the Greek language. The tool draws inspiration from existing discharge planning checklists (e.g., Hersh et al., 2020), designed to actively engage patients in the discharge process and identify critical aspects that need to be considered during this phase.

Methods

Materials

To create a comprehensive checklist for discharge planning, we drew inspiration from established tools such as the LEAVING checklist, which was developed Deborah Hersh and shared with the Australian Aphasia Association. This tool was originally created in response to the COVID-19 pandemic to help ensure safe and appropriate discharge from hospital for people with aphasia. It structures questions around seven key areas of interest:

- L - Listening to people's general concerns
- E - Education for people and families
- A - Accessible information
- V - Validation of what individuals understand
- I - Information technology access and training
- N - Navigating the health and social care system
- G - Goals for recovery and community reintegration

This checklist includes a final page, the LEAVING Topic Sheet, which patients take with them upon discharge. This sheet serves as a written record summarizing key points from discussions between clinicians and patients, ensuring important information and goals are clearly communicated. This tool has proven valuable, especially for individuals who are often not provided with a formal discharge summary or goal-setting document (https://aphasia.org.au/wp-content/uploads/2023/10/LEAVING-Checklist-AAA.pdf).

Building on this framework, we developed and translated a similar checklist for individuals recovering from stroke into the Greek language. This process was undertaken in collaboration with a small team of international experts from Cyprus and Australia (see Figure 1). The Greek version is also a real word that can serve as a mnemonic, created with input from a focus group of experts, is "FEVGONTAS" /'fevɣondas/, which also means "leaving" in Greek. Each letter represents a specific area of focus:

- Φ for Φιλική συζήτηση (/fili'ki si'zitisi/ - LISTEN)
- E for Εκπαίδευση (/ek'peðevsi/ - EDUCATE)
- Υ for Υποστήριξη και πρόσβαση (/ipo'stiriksi çe 'prozvasi/ - ACCESS)
- Γ for Γραφειοκρατία (/ɣrafiokra'tia/ - NAVIGATE)
- ΟΝ for Όρισε Νέους στόχους (/'orise 'neus 'stoxus/ - GOALS)
- ΤΑ for Τεχνολογία και Αφασία (/texnolo'ʝia çe afa'sia/)
- Σ for Σιγουριά (/siɣu'repsu/ - VALIDATE)

□his localized version retains the principles of the original L□AVI□G checklist while addressing cultural and linguistic nuances relevant to Greek-speaking individuals.

LISTEN to people's concerns	Φιλική συζήτηση (/fili'ki si'zitisi/- LISTEN),
EDUCATE people and families	Εκπαίδευση (/ek'peðevsi/-Educate),
ACCESS to information and support	Υποστήριξη και πρόσβαση (/ipo'stiriksi çe 'prozvasi/-ACCESS),
VALIDATE that people understand and can manage the plan	Γραφειοκρατία (/γrafiokra'tia/-NAVIGATE)
INFORMATION TECHNOLOGY access and use	Όρισε Νέους στόχους (/'orise 'neus 'stoxus /- GOALS)
NAVIGATE the health and social care system	Τεχνολογία και Αφασία (/texnolo'ʝia çe afa'sia/-TECHNOLOGY)
GOALS for when people leave hospital.	Σιγουριά (/siγu'repsu/-VALIDATE)

Figure 1 The English version (left) LEAVING checklist and the Greek (right) translation /'fevɣodas/ - ΦΕΥΓΟΝΤΑΣ acronym

Procedures

To assess the fidelity of translation, a conventional "back translation" methodology from English to Greek was independently conducted by four bilingual experts specializing in stroke rehabilitation research. Subsequently, a collective meeting convened to reconcile and refine the translations through consensus. A strategic decision was undertaken to adapt the original checklist to enhance its relevance to post-stroke populations at large, while preserving its pertinent content for individuals experiencing aphasia post-stroke. Considering the considerable strain placed upon healthcare systems and stroke care services amidst the COVID-19 pandemic, it was deemed imperative to broaden the utility of the checklist for post-stroke patients. This adjustment aimed to ensure that the discharge process remains as safe and appropriate as feasibly achievable within the prevailing circumstances, thus extending its utility to a wider demographic.The modifications included question 7 ("Does the person understand their aphasia?" which was changed to "Does the person understand their stroke symptoms/communication problems?"), question 8 ("Does the person know about community aphasia groups, online aphasia groups and organizations?" which was changed to "Does the person know about community stroke groups, online groups and organizations?") and question 13 ("Does the person have accessible written information on stroke and aphasia?" to "Does the person have accessible written information on stroke?"). All other questions from the original checklist remained the same.

The second phase entailed a content validity assessment. The evaluation of content validity was executed utilizing the Item-Content Validity Index (I-CVI) as the primary metric, a method endorsed by Burns and Grove (2005). The resultant Item-Content Validity Index (ICVI) yielded a score of 0.80, signifying robust content validity.

Subsequently, a pilot phase was conducted, engaging a cohort of 30 stroke patients. This sample size was determined as appropriate for pretesting, in alignment with guidelines delineated by Gunawan et al. (2021), which typically advocate for sample sizes ranging between 15 to 30 subjects.

Participants

All participants in this study, as detailed demographically below, were examined during their stay in the rehabilitation center. The participants received detailed information and instructions about the study procedures, their role in the research, and the interview process. The checklist was administered two weeks prior to their discharge. Written notes were taken during the administration of the checklist, which lasted 20 to 40 minutes for each participant.

The study cohort comprised stroke survivors, consisting of 14 females and 16 males, with ages ranging from 48 to 90 years and a mean age of 74.4 years. Inclusion criteria mandated participants to have been admitted to a rehabilitation center located in Northern Greece between May 2021 to December 2022. Eligibility criteria encompassed recent medical diagnosis of stroke within the preceding two weeks of hospitalization, proficiency in the Greek language, and absence of cognitive impairments impeding comprehension of their status. Consequently, individuals presenting severe cognitive impairments after stroke or other concurrent conditions (e.g., dementia) scoring below 24 on the Mini Mental State Examination (MMSE) were excluded from the study.

During the period spanning from May 2021 to December 2022, both post-Covid-19 patients and non-neurological controls, the latter defined as individuals referred for rehabilitation services unrelated to neurological conditions (e.g., fractures, etc.), were admitted to the same rehabilitation center in Northern Greece. The two comparison cohorts consisted of 20 post-Covid-19 patients (comprising 10 females and 10 males, with ages ranging from 40 to 88 years and a mean age of 73.2 years) and 20 healthy individuals (also consisting of 10 females and 10 males, with ages ranging from 42 to 91 years and a mean age of 75.2 years). These groups adhered to the same eligibility criteria as the stroke survivor cohort. The selection of these control groups was guided by the desire to provide a clear comparison for evaluating the rehabilitation outcomes of stroke survivors. By including post-Covid-19 patients, we aimed to understand how Covid-19-related health issues affect rehabilitation compared to those with stroke, as both conditions can significantly impact physical and cognitive functions. Including non-neurological individuals provided a point of reference to explore differences in discharge challenges faced by patients with and without prior neurological or Covid-19-related impairments. Matching these groups for age and gender ensured that differences in rehabilitation outcomes could be attributed more accurately to the specific health conditions of each cohort rather than demographic variables.

All non-neurological controls and post-Covid-19 patients were native Greek speakers and exhibited no pre-existing

communication impairments such as aphasia or cognitive deficits, as determined by their Mini Mental State Examination (MMSE) scores.

Prior to participation, all individuals provided informed consent and were informed that they retained the option to withdraw from the interview or terminate it at any juncture if they experienced discomfort. Notably, none of the participants opted to withdraw from the study.

Statistical analysis

In terms of descriptive statistics, we utilized relative frequencies [%] to compute the percentage of "yes" and "no" responses for each question (item). The Coefficient of Variation (CoV) was employed to assess the relative homogeneity of responses within each section of questions by calculating the relative variance of the percentages of "yes" replies against the respective average value.

For inferential statistics, given the categorical and dichotomous ("yes"/"no") nature of the variables, we employed the non-parametric Fisher's exact test (FET) to explore potential differences in responses between the stroke survivor group and the non-neurological controls/post-Covid-19 survivor groups, as well as the influence of gender on responses. FET, known for its exact calculation of significance, is deemed suitable for testing independence between categorical variables in small sample sizes, particularly when dealing with dichotomous variables, characteristic of this study's sample. The non-parametric Mann-Whitney-Wilcoxon sum-rank test was utilized to assess the impact of subjects' age on responses. This test examines the equality of mean age (a non-normally distributed scale variable) between independent samples corresponding to "yes" and "no" responses for each question.

Exploratory Factor Analysis (EFA) was employed for questionnaire validation, as it facilitates the inductive identification of underlying item structures, grouping items into statistically distinguishable factors based on inter-item correlations. Principal Axis factoring and Varimax rotation were utilized as the extraction and rotation methods, respectively. Tetrachoric correlation matrices were employed due to the binary ("yes"/"no") nature of the variables. The Kaiser-Meyer-Olkin (KMO) measure assessed data adequacy, while Bartlett's test of sphericity evaluated inter-variable correlations.

Finally, the reliability of the questionnaire was tested using the Kuder and Richardson KR-20 index, which is a suitable measure for the assessment of the internal consistency (reliability) of two or more dichotomous variables.

All hypotheses were tested at $\alpha = .05$ level of significance, but also, in several cases, the $\alpha = .10$ level was also considered. The statistical analysis was conducted in R.

Results

Table 1 presents the average relative frequency of "yes" responses per item within each section of questions. Among these sections, the "Information technology access and training" section (I) displayed the lowest percentage of "yes" responses, while the "Navigate the health and social care system" section (N) exhibited the highest. Notably, the "Establishing and highlighting Goals for recovery" dimension (G) showed the highest within-group variability (CoV=89%), whereas the "Navigate the health and social care system" dimension (N) demonstrated the most homogeneity (CoV=11%).

Section	L	E	A	V	I	N	G
“Yes” responses [%]	44	51	53	59	40	75	45
Coefficient of Variation	.69	.34	.45	.34	.41	.11	.89

Table 1. Average relative frequency and coefficient of variation of “yes” responses within each group of questions.

Table 2 shows the relative frequency of "yes" responses in the "Listen" section, revealing no statistically significant differences between stroke survivors and post-Covid-19 survivors, nor between stroke survivors and non-neurological controls.

In Table 2, significant differences emerged in Question 1 ("Does the person understand the situation of Covid-19?") of the "Educate" section. Notably, 70% of stroke survivors demonstrated a poor understanding or had inquiries regarding Covid-19 during discharge, compared to 45% among post-Covid-19 survivors ($p = .089$, FET, $\alpha = .10$). Furthermore, stroke survivors exhibited a significantly poorer understanding of Covid-19 compared to non-neurological controls ($p = .021$, FET), indicating the need for additional education.

Regarding Question 2 ("Does the person understand their stroke symptoms/communication problems?") in the "Educate" section, 53% of stroke survivors expressed a need for education on communication difficulties stemming from stroke, whereas none of the non-neurological controls reported such a necessity ($p < .001$, FET), highlighting a significant distinction.

Significant disparities were identified between stroke survivors and the comparison groups in the "Access" section of the checklist, particularly in relation to various questions assessing access-related factors (refer to Table 2). For instance, in Question 1 ("Does the person have access to an effective communication channel or compensations – verbal, written, drawing?"), a substantial difference was noted, with only 43% of stroke survivors demonstrating proficiency in articulating and demonstrating communication channels or compensatory strategies, compared to 100% of non-neurological controls ($p = .004$, FET) and 85% of post-Covid-

19 patients ($p < .001$, FET) who had alternative communication methods readily available at discharge.

Similarly, for Question 2 ("Does the person have accessible written information on stroke/aphasia?"), marked discrepancies were observed between stroke survivors and the comparison groups. Specifically, a mere 23% of stroke survivors had access to written materials on aphasia and stroke, contrasting starkly with 100% of non-neurological controls ($p < .001$, FET) and 75% of post-Covid-19 patients ($p = .001$, FET) who had such resources at their disposal.

In response to Question 3 ("Does the person have accessible material on COVID-19? Can they access resources on this?"), significant variations were once again evident. Approximately 57% of stroke survivors possessed accessible COVID-19-related materials and could access pertinent resources, contrasting with the entirety of the non-neurological controls group (100%) ($p = .001$, FET) and 85% of post-COVID patients ($p = .062$, FET, $\alpha = .10$) affirming the affirmative response.

Regarding Question 5 ("Can the person access emergency assistance if needed?") within the "Access" section, 70% of stroke survivors demonstrated comprehension of how to seek emergency aid during discharge. Notably, significant differences surfaced between stroke survivors and post-Covid-19 patients, with 95% of the latter exhibiting a grasp of accessing assistance during discharge ($p = .037$, FET).

Lastly, in the inquiry pertaining to "Any other access concerns?" within the "Access" section of the checklist, notable differences were noted between stroke survivors and non-neurological controls. Specifically, only 37% of stroke survivors harbored additional access-related concerns, whereas 70% of non-neurological controls mentioned such concerns ($p = .042$, FET).

In addressing Question 3 ("Has the individual received a home assessment with occupational therapy clearance?") within the "Validate" section, the data indicates that less than half of both stroke survivors (40%) and non-neurological controls (45%) anticipated their homes being suitable for their post-discharge needs (see Table 2). Notably, a significant discrepancy was observed between stroke survivors and post-Covid-19 patients, with 70% of the latter expressing confidence in the adequacy of their home environment ($p = .048$, Fisher's exact test).

In addressing Question 2 ("Does the individual possess the capability to utilize their preferred IT options for contacting others?") within the "Information Technology" section, a lower proportion of stroke survivors (57%) reported this ability compared to both non-neurological controls (85%) and post-Covid-19 patients (85%) ($p = .062$, Fisher's exact test, $\alpha = .10$), and demonstrated examples during their clinician meetings (see Table 2).

Regarding Question 3 ("Can the individual engage in online shopping if necessary?") within the "Information Technology" section, a significant difference was observed between stroke survivors (37%) and non-neurological controls (65%) in their capability for online shopping ($p = .082$, Fisher's exact test, $\alpha = .10$), although no significant disparity was found between stroke survivors and post-Covid-19 patients (50%).

In response to Question 4 ("Is the individual capable of accessing websites or useful apps?") within the "Information Technology" section, only 20% of stroke survivors reported this capability, significantly lower than both non-neurological controls (65%) ($p = .003$, Fisher's exact test) and post-Covid-19 patients (50%) ($p = .034$, Fisher's exact test).

For Question 5 ("Does the individual have assistance available in case of internet failure or service issues?") within the "Information Technology" section, a significant difference was evident between stroke survivors (30%) and non-neurological controls (75%) in the availability of assistance during internet failures or service issues, such as with online shopping ($p = .003$, Fisher's exact test).

In response to Question 1 (“Could the person access their GP through phone or email?”) of the “Navigate” section, 80% of stroke survivors (80%) were able to access their GP through phone or email (see Table 2). The percentage of the non-neurological controls appear to be statistically significantly higher than that of the stroke survivors ($p = .069$, FET, $\alpha = .10$). In response to Question 2 of the “Navigate” section (“Could the person manage medications, get a prescription?”), there was a significant difference between stroke survivors (77%) and non-neurological controls (100%) in the ability to manage medications or get a prescription. In response to Question 3 (“Could the person manage healthcare services?”) of the “Navigate” section, significant differences were found between stroke survivors (63%) and the other two groups, non-neurological controls (90%) ($p = .050$, FET) and post-Covid-19 patients (100%) ($p = .002$, FET) in the ability to manage health insurance services. In response to Question 4 (“Can the person keep up to date on changes with COVID-19?”) of the “Navigate” section, the difference found was statistically significant between stroke survivors and post-Covid-19 patients (100%) ($p = .069$, FET, $\alpha = .10$).

In response to Question 3 (“Can they use home practice apps/programs while waiting?”) of the “Goals” section, only 10% of stroke survivors stated that they could use home practice apps/programs, a percentage that is significantly lower than the 65% of the non-neurological controls ($p < .001$, FET) (see Table 2). In response to Question 4 (“Do they feel comfortable with telehealth delivery when they go home?”) of the “Goals” section, only 17% of the stroke survivors would feel comfortable with telehealth delivery when they go home in comparison to the 65% of the non-neurological y controls ($p = .001$, FET).

Item	Stroke survivors	Post-Covid-19 survivors	sig.+	Healthy controls	sig.++
L-1	50	45	1.000	50	.779
L-2	33	50	.553	45	.258
L-3	93	95	1.000	90	1.000
L-4	30	50	.235	50	.235
L-5	13	15	.454	25	.868
E-1	70	45	.089*	35	.021**
E-2	53	70	.249	0	<.001**
E-3	20	10	.450	35	.327
E-4	47	60	.399	60	.399
E-5	63	85	.118	50	.393
E-6	53	60	.773	35	.254
A-1	43	85	.004**	100	<.001**
A-2	23	75	.001**	100	<.001**
A-3	57	85	.062*	100	.001**
A-4	90	95	.641	100	.265
A-5	70	95	.037**	70	1.000
A-6	37	25	.538	70	.042**
V-1	80	90	.450	75	.736
V-2	57	65	.769	70	.387
V-3	40	70	.048**	45	.776
I-1	57	60	1.000	80	.129
I-2	57	85	.062*	85	.062*
I-3	37	50	.393	65	.082*
I-4	20	50	.034**	65	.003**
I-5	30	50	.235	75	.003**
N-1	80	85	.724	100	.069*
N-2	77	90	.285	100	.033**
N-3	63	100	.002**	90	.050**
N-4	80	100	.069*	95	.219
G-1	97	90	.556	90	.556
G-2	57	45	.556	60	1.000
G-3	10	30	.130	65	<.001**
G-4	17	30	.311	65	.001**

Table 2. Relative frequencies of “yes” answers to the questions of the Checklist.

Demographic Effects

The analysis did not reveal compelling evidence suggesting a consistent influence of demographics, namely gender and age, on patient responses. Across items, no statistically significant differences were identified concerning the gender of respondents ($\chi 2(1, N = 30) = 0.1$ to 2.7, $p = .100$ to $.961$). However, concerning the respondents' age, statistical significance was noted for seven items (see Table 3) between those responding positively and those responding negatively.

	Average age of patients		
Item	**Yes**	**No**	**sig.**
L-1	69.1	79.7	.022**
I-1	69.7	80.5	.011**
I-2	69.7	80.5	.011**
I-4	63.8	77.0	.009**
I-5	65.8	78.1	.011**
V-2	69.7	80.5	.011**
G-4	62.6	76.8	.010**

** Statistically significant difference at a=5% ** Statistically significant difference at a=10%*

Table 3. Average age and results of the Mann-Whitney-Wilcoxon sum-rank test for the impact of age on responses.

Validation of the discharge checklist

A preliminary Exploratory Factor Analysis (EFA) was conducted to validate the questionnaire, as this method is suitable for uncovering the underlying structure of the item

set by identifying the inter-item correlations. Subsequently, it assesses the alignment between this empirical structure and the theoretical grouping proposed initially. The EFA utilized Principal Axis factoring for extraction and Varimax rotation for rotation methods, considering the binary/dichotomous nature of the variables. The tetrachoric correlation matrix was employed for calculations.

The Kaiser–Meyer–Olkin (KMO) measure (KMO = .933) provided strong evidence of the data's adequacy for EFA. Additionally, Bartlett's test of sphericity ($\chi^2(528) = 166032.1$, $p < .001$) confirmed sufficient inter-item correlations, supporting the use of EFA. All communalities exceeded .5, indicating shared variance among items.

The EFA was conducted for seven factors, aligning with the initial number of item groups in the questionnaire. SSL values exceeding 1 for all seven factors indicate their significance, with these factors collectively explaining 93% of the variance.

The first factor emerged as the most influential, explaining 37% of the total variability, while subsequent factors contributed to a lesser extent. The subsequent factors contributed SSL values of 4.59 (F2), 4.31 (F3), 3.36 (F4), 3.04 (F5), 1.84 (F6), and 1.29 (F7), explaining 14%, 13%, 10%, 9%, 6%, and 4% of the variance, respectively. The cumulative variance explained by these factors increased progressively, with F1 alone accounting for 37%, the first two factors together explaining 51%, and all seven factors cumulatively explaining 93% of the variance. The first factor emerged as the most influential, with subsequent factors contributing less to the overall variability.

The factor loadings of the 33 items are presented in Table 4 (note: the table presents only factor loads > .40). Most of the items are related to the same one factor. In some cases, items are related to two or more factors, and also five factors are related to 4 items or less. In this context, the option for less factors could be also considered.

	Items	Content	F1	F2	F3	F4	F5	F6	F7
Leaving	**L-1**	Is anything worrying the person (and family, if present) about going home or follow-up?	.80						
	L-2	Does the person believe they can manage ADLs?						.92	
	L-3	Is the person confident about their friendship/family networks and supports?						.46	
	L-4	Is the person anxious about COVID-19?				.91			
	L-5	Are there any other questions?				.88			
Education	**E-1**	Does the person need education about the situation with COVID-19 (rules on physical distancing, need to stay at home)?							.78
	E-2	Does the person understand their aphasia?	.57	.53					
	E-3	Does the person know about community aphasia groups, online aphasia groups and organisations?	.43		.45				
	E-4	Does the person know about ongoing rehabilitation services?	.52	.44	.53				
	E-5	Does the person understand their other stroke-related issues and medication plan?			.87				
	E-6	Does the person understand secondary stroke prevention and lifestyle adaptations?	.62		.45		.44		
Access	**A-1**	Does the person have access to an effective communication channel or compensations – verbal, written, drawing?	.69	.42					
	A-2	Does the person have accessible written information on aphasia (leaflets, Aphasia guide, Aphasia card)?	.63	.70					
	A-3	Does the person have accessible material on COVID-19? Can they access resources on this?		.79					
	A-4	Can the person understand and access the daily news/ updates?		.80		.51			
	A-5	Can the person access emergency assistance?	.77		.42				
	A-6	Any other access concerns?							
Validation	**V-1**	Are there follow-up services in place for the person?		.70					
	V-2	Has the person demonstrated device use (phone, tablet, computer) while in hospital?	.86						
	V-3	Has the person had a home visit with OT clearance?	.78				.53		
Information Technologies	**I-1**	Are there devices at home (computer, tablet (iPad or android), smartphone (iPhone/android))?	.86						
	I-2	Does the person have the ability to use their preferred IT options to contact other people (phone, email, videoconferencing, Facebook)?	.86						
	I-3	Can the person use online shopping if needed (find the sites they want, generate their items, pay for the items)?	.63				.51		
	I-4	Can the person access websites (such as AAA or Stroke Foundation) or useful apps?	.86						
	I-5	Does the person have assistance if the internet fails or there is a problem with the service?	.96						

Navigation	**N-1**	Could the person access their GP through phone or email?	.79						
	N-2	Could the person manage medications, get a prescription?	.54		.60	.48			
	N-3	Could the person manage NDIS or Centrelink services?			.80				
	N-4	Can the person keep up to date on changes with COVID-19?	.78	.47					
Goals	**G-1**	What does the person want to do when they get home?							
	G-2	What ongoing therapy or social care services do they want?	.85						
	G-3	Can they use home practice apps/programs while waiting?	.70		.47				.40
	G-4	Do they feel comfortable with telehealth delivery when they go home?	.90						

Table 4. Factor loadings for the 33 items of the questionnaire

Reliability assessment of the discharge checklist

The reliability of the checklist was assessed using the Kuder and Richardson KR-20 index, which is well-suited for evaluating the internal consistency of dichotomous items. Overall, the questionnaire demonstrates reasonable reliability. Several item groups exhibit high reliability scores, notably groups "V", "I", and "B", while others show moderate reliability, such as "E", "A", and "G". Only group "L" exhibits relatively lower internal consistency. Several item groups exhibit high reliability scores, notably groups "V" (KR-20 = .748), "I" (.890), and "N" (.810), while others show moderate reliability, such as "E" (.612), "A" (.609), and "G" (.653). Only group "L" exhibits relatively lower internal consistency with a KR-20 value of .486.

Discussion

Effective discharge planning following stroke necessitates collaborative efforts between clinicians and patients, as highlighted by emerging research demonstrating the positive impact of patient engagement on various post-stroke outcomes, including community integration, activities of daily living performance, and coping skills (Miller et al., 2019; Chen et al., 2021). However, prevailing discharge practices often prioritize organizational structures over individual patient needs. This study, with the translation and adaptation of the checklist, is the first step towards enhancing our understanding of the difficulties Greek stroke patients face during their transition from rehabilitation to home.

This study, to our knowledge, is the first to highlight potential challenges in discharge transitions from rehabilitation faced by stroke patients in Greece. Indeed, with respect to non-neurological controls and Covid-19 patients the performance of stroke survivors showed gaps in overall discharge planning. It has confirmed that, in a Greek context, people after stroke, including those with communication difficulties, have less information and are potentially at more risk than other patient groups.

While many people are well supported by families and informal caring networks, this work highlights what still needs to be done to improve discharge planning in this context. By employing straightforward questions and discharge checklists, it becomes feasible to identify and address these issues more effectively, while also integrating patient experiences into the discharge planning process.

Our findings reveal some consistent concerns about transitioning back home among all groups. Recognizing the importance of effective communication and collaboration, particularly in post-stroke rehabilitation, we suggest that the use of a checklist, is a way to remind health professionals to take the time to listen to patients and their families prior to discharge and to help orientate them to what might be required once home. This approach aligns with our objective of incorporating patient perspectives into discharge planning, enabling clinicians to better understand the diverse needs of stroke survivors and tailor discharge plans accordingly.

However, it is essential to acknowledge the preliminary nature of our findings, given the limited sample size. Future research endeavors with larger and more diverse samples are warranted to further validate and enhance the utility of the checklist for stroke survivors.

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