

Millenium, 2(Edição Especial Nº24)



FATORES DETERMINANTES DA FREQUÊNCIA DAS VISITAS DOMICILIÁRIAS DE ENFERMAGEM PREVENTIVAS A IDOSOS

FACTORS INFLUENCING THE FREQUENCY OF PREVENTIVE HOME NURSING VISITS TO OLDER ADULTS

FACTORES DETERMINANTES DE LA FRECUENCIA DE LAS VISITAS DOMICILIARIAS DE ENFERMERÍA PREVENTIVA A PERSONAS MAYORES

Tiago Alves^{1,2}  <https://orcid.org/0000-0002-1347-2977>

Sidónia Pacheco³  <https://orcid.org/0000-0001-8025-1640>

Helena Alves³  <https://orcid.org/0000-0002-4440-7633>

Rosa Carvalho³  <https://orcid.org/0009-0006-9405-430X>

Ana Alves⁴  <https://orcid.org/0000-0002-7595-1447>

¹ Instituto Politécnico de Saúde do Norte, Vila Nova de Famalicão, Portugal

² Artificial Intelligence and Health Research Unit: IA&SAÚDE, Vila Nova de Famalicão, Portugal

³ Unidade Local de Saúde Médio Ave, Vila Nova de Famalicão, Portugal

⁴ Unidade Local de Saúde Alto Ave, Guimarães, Portugal

Tiago Alves – tiago.alves@ipsn.cespu.pt | Sidónia Pacheco – sidonia.pacheco@gmail.com | Helena Alves – helena.rafael.alves@gmail.com |
Rosa Carvalho – rosinha.carv@gmail.com | Ana Alves – ana.rafael.alves@gmail.com



Corresponding Author:

Tiago Alves

R. José António Vidal

4760-409 – Vila Nova de Famalicão - Portugal

tiago.alves@ipsn.cespu.pt

RECEIVED: 23rd April, 2025

REVIEWED: 04th December, 2025

ACCEPTED: 29th June, 2026

PUBLISHED: 07th September, 2026

DOI: <https://doi.org/10.29352/mill0224e.41426>

RESUMO

Introdução: A avaliação sistemática das necessidades de cuidados domiciliários é essencial para garantir a equidade e a eficiência na alocação dos recursos de enfermagem comunitária.

Objetivo: Identificar os fatores que determinam a frequência das visitas domiciliárias de enfermagem preventivas a pessoas idosas.

Métodos: Estudo observacional, retrospectivo e analítico, baseado nos registos clínicos de 158 pessoas idosas com 80 ou mais anos, acompanhadas por enfermeiros de família em 2024. Foram recolhidas variáveis sociodemográficas, clínicas, funcionais e de suporte, sendo a variável dependente o número de visitas preventivas. Realizaram-se análises descritivas e multivariadas.

Resultados: A média de visitas foi de 2,76 (DP = 1,06). O estado funcional, avaliado pelo Índice de Barthel, apresentou uma associação negativa com a frequência das visitas. Nenhuma das comorbidades revelou significância estatística no modelo final. As variáveis sociais e contextuais também não se associaram significativamente à frequência das visitas.

Conclusão: A dependência funcional destacou-se como o principal determinante da frequência das visitas domiciliárias de enfermagem preventivas. Estudos futuros deverão incluir amostras mais diversificadas e variáveis de resultado complementares, de modo a apoiar o desenvolvimento de modelos preditivos mais abrangentes.

Palavras-chave: enfermagem em saúde comunitária; idoso; visita domiciliar; estado funcional; medição de risco; serviços preventivos de saúde

ABSTRACT

Introduction: Systematic assessment of home care needs is essential to ensure equity and efficiency in the allocation of community nursing resources.

Objective: To identify the factors that determine the frequency of preventive home nursing visits to older adults.

Methods: An observational, retrospective, and analytical study was conducted using clinical records from 158 older adults aged 80 years and over, monitored by family nurses in 2024. Sociodemographic, clinical, functional, and support-related variables were collected, with the number of preventive visits as the dependent variable. Descriptive and multivariate analyses were performed.

Results: The average number of visits was 2.76 (SD = 1.06). Functional status, as measured by the Barthel Index, was negatively associated with the frequency of visits. None of the comorbidities showed statistical significance in the final model. Social and contextual variables were also not significantly associated with visit frequency.

Conclusion: Functional dependence emerged as the primary determinant of the frequency of preventive home nursing visits. Future studies should include more diverse samples and complementary outcome measures to support the development of more comprehensive predictive models.

Keywords: community health nursing; older adults; functional status; house calls; risk assessment; preventive health services

RESUMEN

Introducción: La evaluación sistemática de las necesidades de atención domiciliar es fundamental para garantizar la equidad y la eficiencia en la asignación de los recursos de enfermería comunitaria.

Objetivo: Identificar los factores que determinan la frecuencia de las visitas domiciliarias de enfermería preventiva a las personas mayores.

Métodos: Estudio observacional, retrospectivo y analítico, basado en los registros clínicos de 158 personas mayores de 80 años, acompañadas por enfermeros de familia durante el año 2024. Se recogieron variables sociodemográficas, clínicas, funcionales y de apoyo, siendo la variable dependiente el número de visitas preventivas. Se realizaron análisis descriptivos y multivariados.

Resultados: El número medio de visitas fue de 2.76 (DE = 1.06). El estado funcional, medido mediante el Índice de Barthel, se asoció negativamente con la frecuencia de las visitas. Ninguna de las comorbidades mostró significación estadística en el modelo final. Las variables sociales y contextuales tampoco se asociaron de forma significativa con la frecuencia de visitas.

Conclusión: La dependencia funcional se ha destacado como el principal factor determinante de la frecuencia de las visitas domiciliarias de enfermería preventiva. Los estudios futuros deberían incluir muestras más diversificadas y variables de resultado complementarias, con el fin de contribuir al desarrollo de modelos predictivos más exhaustivos.

Palabras clave: enfermería en salud comunitaria; anciano; estado funcional; visita domiciliar; medición de riesgo; servicios preventivos de salud

DOI: <https://doi.org/10.29352/mill0224e.41426>

INTRODUCTION

Population ageing is one of the most pressing challenges currently facing health systems worldwide, leading to increased demand for long-term care and the need to reorganise care delivery models, particularly in the home setting (Hu, Cartagena-Farias, & Brimblecombe, 2022; Xu et al., 2024). In Portugal, the population is ageing rapidly: individuals aged 65 and over now exceed 2.5 million, representing approximately 24% of the population as of 2023. Driven by an average annual growth rate of over 2% since 2019, the elderly population has increased significantly, nearly tripling in size over the past five decades (PORDATA, 2024). This demographic shift demands urgent strategies to promote ageing in place and reduce the burden on institutional care.

Preventive nursing home visits are an essential component of community-based care, designed to identify risks early, maintain functional ability, and prevent avoidable hospitalisations among older adults (Yu et al., 2024). These interventions also provide valuable support to informal carers and strengthen the continuity of care, particularly for frail populations.

Several international studies have analysed the factors influencing the frequency and intensity of these visits. Among the most frequently cited predictors are functional dependence, clinical frailty, and risks associated with immobility, such as pressure ulcers and falls (Floridi, Carrino, & Glaser, 2021; Hu, Cartagena-Farias, & Brimblecombe, 2022). In addition, social determinants such as living alone and economic insufficiency have been explored, although the findings remain inconsistent (Dreyer et al., 2018; Mah et al., 2021).

However, there is a significant lack of studies specifically examining these determinants in the Portuguese context, where community nursing is guided by the principles of universality and equity within the National Health Service. Despite the implementation of standardised assessment tools, such as the Barthel Index, Morse Fall Scale, and Braden Scale, evidence on how these assessments influence clinical decision-making regarding visit frequency remains scarce.

Furthermore, the Portuguese model of home visits conducted by family health nurses is embedded within a broader framework of primary healthcare reform, which aims to promote autonomy and reduce hospital dependency. Understanding the determinants of visit frequency in this model is therefore critical to ensure efficient resource allocation and to develop tailored, evidence-informed care plans.

In light of these considerations, this study aims to fill an existing knowledge gap by examining the factors associated with the frequency of preventive nursing home visits among older adults in Portugal. Specifically, we analyse sociodemographic, clinical, functional, and support-related variables in a sample of individuals aged 80 years and over, supported by family nurses in a functional healthcare unit.

1. THEORETICAL FRAMEWORK

Preventive nursing home visits are a cornerstone of primary healthcare strategies for ageing populations, aiming to maintain autonomy, detect early signs of deterioration, and reduce hospital admissions (Yu et al., 2024). These visits are particularly relevant for individuals aged 80 and over, whose care needs tend to be more complex and multidimensional.

International research identifies functional dependence as the most consistent predictor of home visit frequency. Brimblecombe (2022) demonstrated that decreased functional ability, as measured by standardised tools such as the Barthel Index, was strongly associated with increased use of long-term care services in older adults. Similarly, Floridi, Carrino and Glaser (2021) noted that individuals with lower autonomy scores required more intensive home-based monitoring.

In addition to functionality, clinical risk factors, particularly those associated with immobility, have been recognised as relevant. The Braden Scale, used to assess the risk of pressure ulcers, and the Morse Scale, which measures fall risk, are widely adopted tools for identifying patients requiring more frequent nursing surveillance (Yu et al., 2024). These scales not only support clinical decisions but also help standardise prioritisation protocols.

Comorbidities, primarily neurological and cardiovascular conditions, are often associated with higher levels of frailty. However, their predictive value in determining visit frequency has yielded mixed results. Some studies indicate a strong association, while others report no statistically significant correlation when controlling for functional status (Joe et al., 2020). This suggests that functionality may act as a mediating factor.

Social and economic determinants have produced more inconsistent findings. For example, (Mah et al., 2021) identified economic insufficiency and living alone as barriers to accessing home care services. In contrast, other studies, such as Dreyer et al. (2018), found no meaningful relationship between social vulnerability and visit frequency. This discrepancy may reflect variations in national healthcare models, particularly the extent of universal coverage.

In Portugal, the National Health Service offers universal access to community care services, including regular home visits by family health nurses. However, few studies have assessed which clinical and social indicators influence the frequency of these visits. To date, there is a notable scarcity of research evaluating how validated assessment tools, such as the Barthel, Braden, and Morse Scales, are integrated into decision-making by Portuguese nurses.

Moreover, national statistics indicate a rapidly ageing population, with the number of people aged 65 and over exceeding 2.5 million in 2023, driven by an average annual growth of over 2% since 2019 (PORDATA, 2024). However, the evidence base guiding community care planning remains limited, particularly regarding predictive models that account for the interaction between functional, clinical, and social variables.

DOI: <https://doi.org/10.29352/mill0224e.41426>

This study addresses these gaps by examining the determinants of preventive nursing home visit frequency in a Portuguese primary care setting, using validated clinical tools and exploring both individual and contextual factors. The findings aim to support the development of more evidence-informed guidelines for community health nursing practice and resource planning.

2. METHODS

This section outlines the methodological procedures adopted, including the study's planning, sample characterisation, variables analysed, and statistical data processing strategy.

2.1 Study Design

An observational, retrospective, and analytical study was conducted to identify the factors associated with the frequency of preventive nursing home visits to older adults. The methodology was guided by the RECORD (REporting of studies Conducted using Observational Routinely-collected Data) statement, which is an extension of the STROBE guidelines, ensuring transparency and rigour in the use of routinely collected clinical data (Benchimol et al., 2015). The use of RECORD was deemed appropriate due to the retrospective design based on electronic nursing records.

2.2 Context, Population, and Sampling

The study was conducted in a Functional Health Unit in Northern Portugal, part of the National Health Service. The target population consisted of individuals aged 80 years or older, who were monitored throughout 2024 by three family health nurses. Participants were included if they were community-dwelling for the entire year and under follow-up by the designated nurses. Exclusion criteria encompassed institutionalisation or hospitalisation at any point during the study period. These criteria were adopted to maintain consistency in examining community-based nursing interventions and exclude scenarios in which home visits would be suspended or replaced by institutional care.

Although the sample may be considered homogeneous, the specific focus on individuals aged 80 years and older under routine home care was chosen to enhance internal validity. This age threshold was set due to the expected higher prevalence of functional decline and nursing dependency in this group.

2.3 Data Source and Collection

Data were extracted retrospectively from the electronic clinical records of home visits conducted during 2024. Records were compiled into a structured spreadsheet and manually reviewed to ensure completeness and internal consistency.

2.4 Variables Studied

The dependent variable was the total number of preventive home nursing visits recorded per participant in 2024. The independent variables were organised into three domains. The sociodemographic domain included age, sex, family structure (categorised as single-parent, nuclear, extended, unitary, or other), and economic insufficiency (as registered in the social diagnosis by the health team). The clinical and functional domain included comorbidities (hypertension, diabetes, heart disease, respiratory disease, mental disorders, neurological conditions, musculoskeletal conditions, and cancer), functional status (Barthel Index), fall risk (Morse Scale), pressure ulcer risk (Braden Scale), and nutritional risk, which was assessed using the Malnutrition Universal Screening Tool (MUST). The social support domain encompassed both institutional support and family support, which were registered as binary variables (present/absent) in the nursing records.

2.5 Statistical Analysis

Data were analysed using IBM SPSS Statistics®, version 29. Firstly, a descriptive analysis of the variables was performed. Mean values and standard deviations were calculated for continuous variables, and frequency distributions were reported for categorical variables. Although median values can offer robustness in skewed distributions, mean and standard deviation were used in this study due to their relevance for subsequent parametric modelling and consistency with Poisson regression outputs. To explore associations, bivariate analyses were conducted using Spearman's correlation for continuous variables, Mann–Whitney U tests for binary variables, and the Kruskal–Wallis H test for variables with more than two categories. Variables with p -values <0.05 or trends towards significance ($p <0.10$) were selected for inclusion in multivariate analysis. Poisson regression was applied using a logarithmic link function. Only main effects were considered. Model assumptions were tested via deviance-to-degrees-of-freedom ratios and Pearson's Chi-square tests. Statistical significance was set at $p <0.05$.

2.6 Ethical Considerations

The study was conducted in accordance with the ethical standards for health research. It was approved by the Ethics Committee of the Local Health Unit of Médio Ave (Approval Reference: 32/2024). The use of fully anonymised secondary data did not require informed consent from participants.

3. RESULTS

This section presents the descriptive and inferential analysis results, including sample characterisation, bivariate analysis, and regression models, to identify factors associated with the frequency of preventive nursing home visits.

DOI: <https://doi.org/10.29352/mill0224e.41426>

Sample Characterisation

The study included 158 individuals aged 80 or over who received preventive home nursing care in 2024. The mean age was 89.2 years (SD = 3.6), with a predominance of females (62%). Participants presented moderate functional dependence, with a mean Barthel Index of 81.2 (SD = 27.1), and moderate fall and pressure ulcer risks based on the Morse and Braden Scales, respectively. The mean number of preventive home nursing visits was 2.76 (SD = 1.06). Hypertension (76.6%), heart disease (39.9%), musculoskeletal conditions (35.4%), and diabetes (24.7%) were the most prevalent comorbidities, while neurological disorders affected 19.6%, mental disorders 15.2%, and cancer 10.8% of the sample.

Regarding social characteristics, 51% of the sample experienced economic insufficiency. Most lived in nuclear (35.4%) or extended (32.9%) family arrangements, while 21.5% lived alone. Institutional support was identified in 27.2% of cases, and 96.8% received family support. Further details on the sample characteristics are provided in Table 1.

Table 1 – Sample characterisation

Variable	Result
Number of participants	158
Age (mean ± SD)	89.2 ± 3.6 years
Female	62%
Barthel Index (mean ± SD)	81.2 ± 27.1
Morse Scale (mean ± SD)	29.3 ± 17.3
Braden Scale (mean ± SD)	20.5 ± 3.3
Number of visits (mean ± SD)	2.76 ± 1.06
Hypertension	76.6%
Heart disease	39.9%
Musculoskeletal conditions	35.4%
Diabetes	24.7%
Neurological disease	19.6%
Mental disorder	15.2%
Cancer	10.8%
Economic insufficiency	51.0%
Lives alone (single family)	21.5%
Institution Support	27.2%
Family Support	96.8%

Note: SD = Standard Deviation

Bivariate Results

Analysis revealed a statistically significant negative association between the number of visits and the Barthel Index and Braden Scale scores, indicating that greater functional independence and a lower risk of pressure ulcers were associated with fewer home visits. In contrast, a positive association was observed for the Morse Scale, suggesting that higher fall risk corresponded with increased visit frequency. No significant association was found with age.

Participants with neurological comorbidities received a significantly higher number of visits. Trends towards significance were observed for economic insufficiency, nutritional risk, and the presence of mental disorders. Other variables, including sex, family structure, institutional support, and remaining comorbidities, did not exhibit a statistically significant association.

Table 2 – Bivariate Analysis Between Variables and Number of Nursing Visits

Variable	Statistics	p-value
Barthel	$\rho = -0.241$	0.002
Braden	$\rho = -0.174$	0.029
Morse	$\rho = 0.214$	0.007
Age	$\rho = -0.050$	0.536
Sex	$U = 2754$	0.482
Economic Insufficiency	$U = 2583$	0.066
Institution Support	$U = 2456$	0.947
Family Support	$U = 312$	0.463
Family Type	$H = 1.562$	0.816
Neurological Disease	$U = 1338$	0.004
Mental Disorder	$U = 1271$	0.086
Heart Disease	$U = 2647$	0.236
Respiratory Disease	$U = 1403$	0.624
Diabetes	$U = 2200$	0.665
Hypertension	$U = 2138$	0.665
Nutritional Risk	$U = 687$	0.088

Note: ρ = Spearman's correlation coefficient; U = Mann-Whitney test statistic;

H = Kruskal-Wallis test statistic; p-value < 0.05 considered statistically significant

DOI: <https://doi.org/10.29352/mill0224e.41426>

Functional Model Results

The model incorporating the Barthel Index, Morse Scale, and Braden Scale showed an acceptable fit (Deviance/df = 0.347) and overall significance ($\chi^2 = 8.393$; $p = 0.039$). Although none of the variables reached individual significance, the Barthel Index approached significance ($p = 0.100$), suggesting a potential association between functional dependence and visit frequency (Table 3)

Table 3 - Functional Model: Poisson regression with clinical and functional variables

Variable	B	SE	Exp(B)	95%CI (Exp(B))	p-value
Barthel	-0.005	0.0033	0.995	[0.988; 1.001]	0.100
Morse	0.002	0.0030	1.002	[0.996; 1.008]	0.455
Braden	0.015	0.0267	1.015	[0.964; 1.069]	0.578

Note. B = estimated regression coefficient; SE = standard error; Exp(B) = incidence rate ratio; 95%CI = 95% confidence interval for Exp(B); $p < 0.05$ considered statistically significant. Model statistics: Deviance/df = 0.347; Omnibus test: $\chi^2(3) = 8.393$; $p = 0.039$.

Social and Support Model Results

This model, including economic insufficiency, family type, institutional support, and family support, was not statistically significant overall ($p = 0.890$). The lack of variability in social context and high prevalence of family support may partially explain the absence of associations (Table 4).

Table 4 - Social and Support Model: Poisson Regression

Variable	B	SE	Exp(B)	95%CI (Exp(B))	p-value
Economic Insufficiency	0.130	0.0989	1.139	[0.938; 1.383]	0.188
Family Type	-	-	-	NS	0.931
Institution support	0.013	0.1096	1.013	[0.817; 1.255]	0.907
Family support	0.140	0.2977	1.150	[0.641; 2.061]	0.639

Note. B = estimated regression coefficient; SE = standard error; Exp(B) = incidence rate ratio; 95%CI = 95% confidence interval for Exp(B); NS = not significant; $p < 0.05$ considered statistically significant. Model statistics: Deviance/df = 0.394; Omnibus test: $\chi^2(7) = 2.948$; $p = 0.890$

Comorbidities Model Results

The model showed an overall non-significant result ($p = 0.526$). Neurological disease was the only variable approaching significance ($p = 0.084$) but was not retained in the final model, likely due to its effect being mediated by functional status (Table 5).

Table 5 - Comorbidities Model: Poisson Regression

Variable	B	SE	Exp(B)	95%CI (Exp(B))	p-value
Diabetes	0.041	0.5963	1.042	[0.325; 3.351]	0.946
Heart Disease	0.029	0.0998	1.030	[0.847; 1.252]	0.769
Respiratory Disease	-0.007	0.1394	0.993	[0.756; 1.305]	0.959
Mental Disorder	0.150	0.1287	1.162	[0.903; 1.495]	0.245
Neurological Disease	0.205	0.1186	1.228	[0.973; 1.549]	0.084

Note. B = estimated regression coefficient; SE = standard error; Exp(B) = incidence rate ratio; 95%CI = 95% confidence interval for Exp(B); $p < 0.05$ considered statistically significant. Model statistics: Deviance/df = 0.376; Omnibus test: $\chi^2(6) = 5.139$; $p = 0.526$.

Final Integrated Model

The final model included the Barthel Index and neurological disease. Only the Barthel Index remained statistically significant ($B = -0.004$; $p = 0.035$). The presence of neurological disease did not maintain significance ($p = 0.431$), reinforcing the central role of functional status in determining the frequency of home nursing visits (Table 6).

Table 6 - Final Adjusted Model: Poisson Regression

Variable	B	SE	Exp(B)	95%CI (Exp(B))	p-value
(Intercept)	1.301	0.166	-	-	<0.001
VBarthel	-0.004	0.0018	0.996	[0.993; 1.000]	0.035
Neurological	0.101	0.128	1.106	[0.860; 1.423]	0.431

Note. B = estimated regression coefficient; SE = standard error; Exp(B) = incidence rate ratio; 95%CI = 95% confidence interval for Exp(B); $p < 0.05$ considered statistically significant. Model statistics: Deviance/gl = 0.347; Omnibus test: $\chi^2(2) = 8.056$; $p = 0.018$.

DOI: <https://doi.org/10.29352/mill0224e.41426>

4. DISCUSSION

The findings of this study highlight that functional dependence, as assessed by the Barthel Index, is the most significant predictor of the frequency of preventive home nursing visits among older adults. This result aligns with previous research that emphasises limitations in activities of daily living as key criteria guiding nursing interventions (Floridi, Carrino, & Glaser, 2021; Hu, Cartagena-Farias, & Brimblecombe, 2022).

The inverse relationship between Barthel scores and visit frequency reinforces the value of structured functional assessment tools in prioritising care delivery. From a clinical and managerial perspective, this suggests that functionality should be considered the primary criterion in determining eligibility for preventive nursing visits, rather than focusing solely on individual diagnoses. This approach could contribute to more equitable and efficient allocation of resources in community care.

Although the presence of neurological comorbidities showed a statistically significant association in the bivariate analysis, this relationship did not persist in the final multivariate model. This finding indicates that the impact of neurological conditions on visit frequency may be mediated by the degree of functional limitation, rather than the diagnosis itself. In practice, this supports a shift away from diagnosis-based decision-making towards a function-oriented model, in which clinical judgment is informed by standardized scores rather than disease labels alone.

No statistically significant associations were found between social or contextual factors, such as economic insufficiency, family support, or institutional support, and the frequency of visits. This contrasts with studies that identify social vulnerability as a barrier to care (Mah et al., 2021) but aligns with other findings showing no meaningful correlation (Dreyer et al., 2018; Joe et al., 2020). One possible explanation is the universal coverage provided by the Portuguese National Health Service, which may mitigate inequalities in access. Nonetheless, other factors could contribute to these findings, including potential under-recording of social vulnerability in clinical records or the limited variability in the sample. These issues merit further exploration in future research.

The practical implications of these results are considerable. A prioritisation model based on functional assessment, notably the Barthel Index, could be developed to guide community nurses in scheduling visits. Such a model would involve stratifying patients into risk tiers based on functionality, enabling more targeted interventions. For example, individuals scoring below a defined Barthel threshold could be automatically flagged for more frequent visits. Incorporating this approach into electronic health record systems could standardise and optimise home visit planning, improving both the equity and cost-effectiveness of care.

The development of such a model should consider additional variables not included in the present study, such as carer burden, recent hospitalisations, or unplanned care episodes. Nonetheless, the current findings provide a crucial foundation for defining the core component of a functionality-based decision algorithm.

Several limitations must be acknowledged. The sample was drawn from a single geographic region and care unit, which may limit the generalisability of the results. In addition, the retrospective design and reliance on routinely collected data may have resulted in missing or inconsistently recorded variables, particularly in the social domain. The homogeneity of the sample, restricted to individuals aged 80 and above, while useful for internal consistency, may further constrain the external applicability of findings.

Despite these limitations, the study contributes to the evidence base supporting structured, functionally driven care planning in community nursing. The use of validated assessment tools and a robust analytical approach strengthens the internal validity of the findings and provides a credible platform for future research and policy development.

CONCLUSION

The results of this study demonstrate that functional dependence, as assessed by the Barthel Index, is the principal factor associated with the frequency of preventive nursing home visits to older adults. This reinforces the importance of structured functional assessment in community health planning, indicating that older adults with greater dependency require more intensive monitoring by family nurses.

None of the comorbidities analysed, nor the social and contextual factors examined, were significantly associated with visit frequency, which further supports the prioritisation of objective, functionally based clinical criteria in care allocation. These findings contribute to evidence-informed decision-making in the management of community nursing services. They suggest that standardised functional assessment should be adopted as a core component of eligibility models and preventive care protocols, promoting more consistent, equitable, and efficient home visit planning.

Recommendations for Future Research

It is recommended that this study be replicated in various geographic and institutional settings. Utilising more diverse samples and including additional outcome variables, such as carer burden and avoidable adverse events, can help in developing more comprehensive predictive models for preventive nursing care.

DOI: <https://doi.org/10.29352/mill0224e.41426>

AUTHORS' CONTRIBUTION

Conceptualization, T.A. and S.P.; data curation, S.P., H.A., R.C. and A.A.; formal analysis, T.A.; investigation, T.A., S.P., H.A., R.C. and A.A.; methodology, T.A. and S.P.; project administration, T.A. and S.P.; software, T.A.; supervision, T.A.; validation, T.A. and S.P.; visualization, S.P.; writing-original draft, T.A. and S.P.; writing- review & editing, T.A.

CONFLICT OF INTERESTS

The authors declare no conflict of interests.

REFERENCES

- Benchimol, E. I., Smeeth, L., Guttman, A., Harron, K., Moher, D., Petersen, I., Sørensen, H. T., von Elm, E., Langan, S. M., & RECORD Working Committee. (2015). The REporting of studies Conducted using Observational Routinely Collected Health Data (RECORD) Statement. *PLoS Medicine*, 12(10), e1001885. <https://doi.org/10.1371/journal.pmed.1001885>
- Dreyer, K., Steventon, A., Fisher, R., & Deeny, S. R. (2018). The association between living alone and health care utilisation in older adults: A retrospective cohort study of electronic health records from a London general practice. *BMC Geriatrics*, 18(1), 269. <https://doi.org/10.1186/s12877-018-0939-4>
- Floridi, G., Carrino, L., & Glaser, K. (2021). Socioeconomic inequalities in home-care use across regional long-term care systems in Europe. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 76(1), 121-132. <https://doi.org/10.1093/geronb/gbaa139>
- Hu, B., Cartagena-Farias, J., & Brimblecombe, N. (2022). Functional disability and utilisation of long-term care in the older population in England: A dual trajectory analysis. *European Journal of Ageing*, 19, 1363–1373. <https://doi.org/10.1007/s10433-022-00723-0>
- Joe, A., Dickins, M., Enticott, J., Ogrin, R., & Lowthian, J. (2020). Community-dwelling older women: The association between living alone and use of a home nursing service. *Journal of the American Medical Directors Association*, 21(9), 1273-1281 e1272. <https://doi.org/10.1016/j.jamda.2019.11.007>
- Mah, J. C., Stevens, S. J., Keefe, J. M., Rockwood, K., & Andrew, M. K. (2021). Social factors influencing utilization of home care in community-dwelling older adults: A scoping review. *BMC Geriatrics*, 21(1), 145. <https://doi.org/10.1186/s12877-021-02069-1>
- PORDATA. (2024). *Pordata faz retrato do país: 50 anos de Democracia em números*. Fundação Francisco Manuel dos Santos. <https://www.pordata.pt/cinco-decadas-democracia-em-portugal>
- Xu, T., Huang, Z., Li, B., Jin, H., Zhang, J., Yang, H., Huang, Y., Zhang, X., & Chen, C. (2024). Association between home and community-based services utilization and self-rated health among Chinese older adults with chronic diseases: Evidence from the 2018 China Health and Retirement Longitudinal Study. *BMC Public Health*. <https://doi.org/10.1186/s12889-023-17535-1>
- Yu, Y., Zhang, J., Petrovic, M., Zhang, X., & Zhang, W. H. (2024). Utilization of home- and community-based services among older adults worldwide: A systematic review and meta-analysis. *International Journal Nursing Studies*, 155, 104774. <https://doi.org/10.1016/j.ijnurstu.2024.104774>