

**Health literacy in nursing home residing
geriatric population
What do they know and what are their challenges?**

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Dedicatória

Aos meus pais, Carlos Alberto Fernandes Laura Lino da Silva e Alexandra Manuela Quirino Pereira Silva.

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Resumo Alargado

Uma baixa literacia em saúde está relacionada com piores *outcomes* de saúde; pior uso de serviços; menor adesão terapêutica e o cumprimento incorreto de planos terapêuticos. Neste estudo foi aplicado um questionário a uma amostra de 40 idosos com uma idade igual ou superior a 65 anos, sem déficits cognitivos/auditivos, residentes de Estruturas Residenciais Para Idosos (NHs) em duas cidades no sul da Europa.

Esta investigação teve como objetivo analisar o conhecimento dos participantes acerca das suas patologias e medicação; avaliar a capacidade dos participantes classificarem corretamente o seu nível de conhecimento acerca das suas patologias e medicação; definir quais os principais obstáculos para uma melhor literacia dentro das NH; classificar a perceção dos residentes acerca dos seus médicos de família (GPs) como agentes promotores de literacia e averiguar se estes abordam os temas de exercício físico e nutrição no decorrer das suas consultas.

Os participantes tinham, em média, 5.45 patologias, 9.3 prescrições e 11.4 comprimidos consumidos diariamente. Os participantes falharam em reportar as suas patologias de forma significativa ($p < 0.001$), reportando 2.7 patologias em cada 10. Os participantes não evidenciaram um desconhecimento significativo da quantidade de comprimidos que consumiam ($p = 0.189$), no entanto, participantes que consumiam menos de cinco comprimidos ou mais de dez falharam em reportar, de forma estatisticamente significativa ($p < 0.001$), o nome e/ou funcionalidade da sua medicação. Por cada 10 comprimidos consumidos diariamente a amostra reportou que consumia 8.7 comprimidos, sendo capaz de nomear/explicar a funcionalidade de 3.3.

Verificou-se que uma explicação “má” ou “muito má” por parte dos GPs acerca da medicação, uma explicação “razoável” dos GPs acerca das patologias, ser do sexo masculino, ter um maior número de patologias no registo clínico, e consumir uma maior quantidade de comprimidos diariamente afetou de forma significativa a percentagem de erro dos participantes ao reportarem a funcionalidade da sua medicação. Os residentes não conseguiram classificar corretamente o seu nível de conhecimento, não tendo sido encontrada uma associação estatisticamente significativa entre a perceção do conhecimento (relativo às patologias ($p = 0.737$) e medicação ($p = 0.267$)), e o conhecimento real dos participantes. Os residentes apresentaram problemas de comunicação com as equipas médicas e a sua falta de autonomia como os principais fatores limitantes da sua literacia. Os participantes classificaram a explicação dos seus médicos, acerca das suas patologias e medicação, de forma maioritariamente razoável ou positiva. Porém, a explicação de efeitos secundários foi classificada de forma

predominantemente negativa. Por fim, verificou-se a desvalorização de certas condições de saúde pelos GPs e que nutrição é um tema pouco abordado durante as consultas (sendo que 70% dos participantes reportaram nunca terem discutido o tópico com o seu GP). Em contraste, apenas 22.5% dos participantes reportaram nunca ter discutido o tópico de exercício físico com o seu GP.

Em suma, esta investigação demonstra que existe um baixo nível de literacia nas NH e realça a necessidade de desenvolver iniciativas para combater este déficit. Identificámos a necessidade de capacitar GPs com melhores estratégias de comunicação, de promover a autonomia de residentes em NHs, de evitar sobremedicar residentes, e de evitar mudanças frequentes das prescrições e/ou do formato/cor da medicação prescrita. Complementarmente, alertamos que profissionais de saúde estão a desvalorizar certas condições de saúde como ansiedade, depressão, insónia, pré-obesidade e obesidade. Estes profissionais devem ficar cientes destes lapsos, diagnosticar os seus pacientes, registar estes diagnósticos nos registos médicos, e medicar adequadamente. Por fim, destacamos a necessidade de habilitar e incentivar profissionais de saúde a abordar nutrição durante as suas consultas.

Palavras-chave

Literacia em Saúde; Estruturas Residenciais para Idosos; Medicina Geral e Familiar; Idosos; Comunicação em Saúde; Autonomia.

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Abstract

Objective

To assess health literacy (HL) levels in nursing homes (NHs) from two cities in the south of Europe; to determine the main challenges for better HL; and to evaluate the perception of general physicians (GP) within NHs.

Methods

Observational and descriptive study with an analytical component of the geriatric population residing in NHs. Data was collected in person via questionnaire, categorized in Excel and analysed using SPSS v.28.

Results

NH residents showed inadequate knowledge of their diseases and medications. Participants were not able to correctly estimate their HL level. Communication problems and lack of resident autonomy were identified as the biggest challenges to HL. Residents' GPs were appraised mostly "positively" or "fairly", apart from their ability to explain drug side effects and on how often they discussed nutrition during their appointments. Lastly, we found that conditions such as anxiety, depression, insomnia, pre obesity, and obesity were underreported by GPs.

Conclusion

NH residents are not properly informed about their diseases and therapeutic plans, and they point to physician patient communication issues and lack of autonomy as the main limiting factors.

Practice implications

We emphasise the need for HL campaigns, autonomy promotion within NHs, and healthcare provider communication training.

Keywords

Health Literacy; Residential facilities; General Practice; Aged; Health Communication; Autonomy.

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List of Abbreviations

ADLs	Activities of Daily Living
BMI	Body Mass Index
ECOSOC	United Nations Economic and Social Council
EU	European Union
GP	General Practitioner
HL	Health Literacy
HLS EU	European Health Literacy Study
MMSE	Mini Mental State Examination
NH	Nursing Home
PT	Portugal
WHO	World Health Organization

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1.Introduction

Health literacy (HL) is an ever-evolving concept broadly defined by the World Health Organization (WHO) as “the ability of individuals to “gain access to, understand and use information in ways which promote and maintain good health” for themselves, their families and their communities”. [1] HL is a highly relevant and pertinent subject. Such was emphasised by the United Nations Economic and Social Council (ECOSOC) in a 2009 ministerial declaration which highlighted the importance of HL, calling for the development of initiatives for its promotion.[2] Worldwide, HL does not seem to be evenly distributed. A 2015 study by the European health literacy survey (HLS EU) studied individuals 15 years and older in eight European countries and found substantial variability of HL between countries. While the Netherlands sample had a prevalence of 28.7% of “inadequate or problematic” HL, Bulgaria had a prevalence of 62.1%. Apart from nationality, low socioeconomic status, low education levels and old age were also found to be risk factors for lower HL.[3] Another 2017 study found that 72.9% of the general Portuguese population has “limited” HL. [4] Portugal (PT) has a geriatric population (22.1%) above the European Union (EU) average (20.6%) and a fertility rate (1.4) lower than the EU average (1.5) [5]. This sizable geriatric population paired with a declining youth is leading to the country’s overall aging, [6] This aging process, common across Europe,[7] emphasises the need to further study HL within this population. Lower HL is correlated to worse health outcomes, [8-11] worse use of services, [8-10] lower therapeutical adhesion [9-13] and greater therapeutic plan errors. [9-11] The geriatric population, due to its lower education level and higher comorbidity rates, is especially prone to not fully understand their healthcare providers, leading to lower HL rates. [4,9,14-15] However, despite the established importance of HL, healthcare providers continue having trouble to correctly estimate their patients’ HL levels, frequently overestimating it. [16-17] Moreover, patient provider communication issues continue to be an extremely common finding despite effective communication having been established as an essential tool to improve HL and optimizing health outcomes. [10,18]

It seems clear that the correlation between HL and health outcomes, the lack of effective patient provider communication, and the vulnerability of the growing geriatric population calls for in depth investigation. Therefore, we aim to investigate HL levels within nursing homes (NH), to determine what NH residents identify as the greatest challenges to better HL and to assess how residents evaluate their healthcare providers.

2. Methods

2.1 Study design

The present study focused on NH residents from two south European cities. The research went through five phases, as shown in Fig.1.

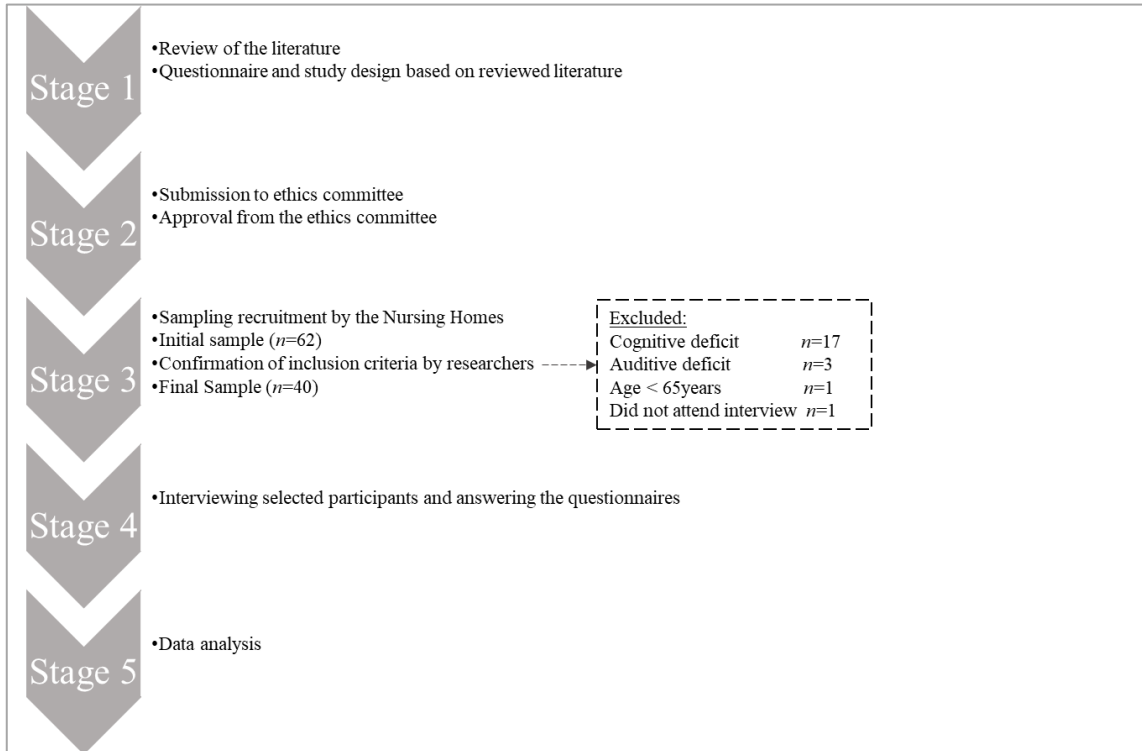


Fig.1. Research project flowchart

From the seven contacted NHs, three participated in the study, three had no individuals with all inclusion criteria and one did not respond.

2.2 Sample

Inclusion criteria included: age equal to or greater than 65 years, absence of cognitive deficits according to the “Folstein Mental State Examination (MMSE)” [19] and absence of hearing deficits. Absence of cognitive and auditory deficits were set as inclusion criteria to ensure that any lack of HL levels derived from the participant's lack of information and were not the result of cognitive or auditory deterioration. All participants read, understood, and signed the informed consent form.

2.3 Data collection

All questionnaire questions were asked verbally and in person (between May and July 2022) and the respective answers were recorded in a GoogleForms file. This data was later transferred to an Excel and SPSS v.28 document where data processing was carried out.

2.4 Assessment of disease and medication knowledge

Participants were asked to name all their diseases and current medications. Answers were only accepted and registered if the participants named and/or adequately described their diseases and if they named and/or adequately described the purpose of their medication. Once the questionnaire was completed the answers were compared to the NHs' databases. Disease databases were further completed by assessing each participant's medications and discussing the prescription with the NH's healthcare team. Participants were asked exclusively about current diseases. The researchers included both "disease" and "health issue" in the questionnaires to get as much information from the residents as possible and to determine if participants made any distinction between the two terms. Aside from reporting the name and purpose of their medication, residents were asked how many times a day they used each individual drug. Drugs were categorized and registered in accordance with the legal denomination. [20]

2.5 Perception of health literacy and general practitioners' communication skills

Participants were asked to rate their own knowledge (regarding their medication and diseases) and to rate their general practitioners' (GP) communication skills (when explaining their diseases, medication, and medication side effects) as "very bad", "bad", "fair", "good" or "very good". It was further asked which (if any) factors could be limiting their knowledge and if their GPs discussed nutrition and physical activity during their appointments.

2.6 Data analysis

The variables were categorized in Excel and analysed using SPSS v.28. They were described using absolute frequencies and percentages. McNemar's test was performed to determine whether there were significant differences between the reported number of diseases and the real number in the NH database. The McNemar Bowker test and pairwise comparisons in McNemar's test with Bonferroni correction were performed to determine whether there were significant differences between the total number of consumed pills every day and the reported amount, and between the total number of consumed pills and the number of pills which the participants were able to name or explain the purpose of. To perform the test, medication was organized into the categories "zero to four pills", "five to nine pills" and "10 or more pills", corresponding to the definitions of "non poly medication", "poly medication", and "major polypharmacy".[21] Quantitative variables were described by means and standard deviations. A multiple linear regression was created for the participants' error percentage in reporting their medication. The stepwise method was used with significance levels of 5% for inclusion and 10% for exclusion of a variable in the model. The assumptions of non-autocorrelation of the residuals and of the model's error being normally distributed (verified using the Kolmogorov Smirnov test) were ensured. However, the variance was not constant due to the presence of an influential outlier. The results between the model with and without the outlier were very similar. As such, it was decided to keep the model with the

outlier since there was no justification for the observation to be excluded. Using Fisher Freeman Halton's exact test (the assumptions for carrying out the chi square test of independence were not verified) we assessed whether there was an association between the perception participants had of their knowledge and their error rate when reporting their diseases and medication purpose. A statistical hypothesis test was considered significant whenever the respective proof value (p) did not exceed the 5% significance level. Each participant's knowledge regarding their diseases and medication was classified according to an official grading system. [22]

The study's independent variables included sex, age, education, time residing in a NH, amount of prescribed medication, number of diseases and perceived quality of GPs' communication skills.

3. Results

3.1 Sociodemographic characterization of the sample

Participants were selected from three southern European NHs. Of a total population of 292 residents, 13.7% met the inclusion criteria. The sample consisted mostly of females (70%, $n=28$). The age varied between 70 and 98 years old, the mean age was 85.25 years. Residents ranged from zero years of schooling/illiteracy to 12 years of schooling. The mean schooling level was 3.38 years. Participants had been living in a NH, on average, for 4.41 years.

3.2 Assessment of disease knowledge

Residents had, on average, 5.45 ± 2.16 active diseases. When asked about their diseases, they failed to report, on average, $73.25 \pm 24.51\%$ of these. In total, the sample reported 27.06% of the diseases present in the NH clinical records. No participants named all the diseases in their clinical record; 70% failed to report one or more of their diseases and 30% reported none. By using the McNemar test, a statistically significant difference ($p < 0.001$) was found between the reported and the true number of diseases. Residents reported significantly fewer diseases than they had. Additionally, no correlation was found between the error percentage in reporting diseases and the independent variables of the study. Fig. 2 presents all the existing diseases in the study sample. All diseases that afflicted only one participant were grouped in the "others" category.

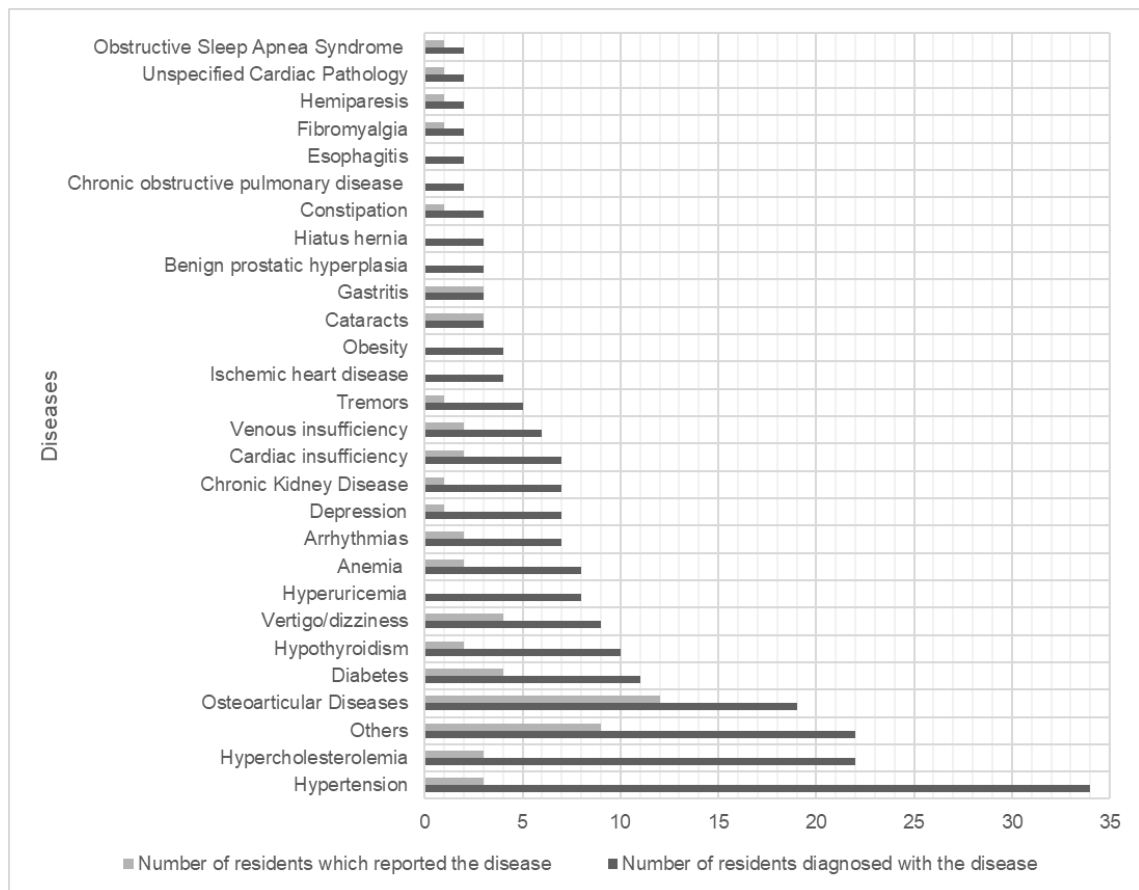


Fig.2. Real and reported diseases by the sample.

We analysed whether participants distinguished between the term "disease" and "health issue". From the 28 participants who reported having a "disease", 10.71% ($n=3$) added information when asked about health issues.

3.3 Assessment of medication knowledge

On average, participants had 9.25 ± 3.86 prescriptions, and consumed 11.4 ± 5.14 pills daily. According to the most consensual definition of polypharmacy (five or more daily drugs), [13,24] 90% of residents were polymedicated. When asked about the number of daily pills consumed, participants answered, on average, with an error of $14.61 \pm 15.41\%$. The sample reported 86.62% of all pills consumed. Participants did not show a significant lack of knowledge regarding the number of pills consumed daily ($p=0.189$). When asked about the purpose of each pill, participants, on average, were not able to name and/or explain the purpose of $62.52 \pm 27.56\%$ of them. Moreover, 5% were able to name and/or explain the functionality of all their pills, 87.5% were unable to do so for one pill or more and 7.5% for none of their pills. In total, the sample reported the name and/or functionality of 32.89% of all prescribed pills. When applying the Fisher Freeman Halton exact test, a statistically significant difference was found between the real and reported "zero to four pills" category ($p<0.001$) and the real and reported "10 or more pills" category ($p< 0.001$). The percentage of individuals who reported consuming less than five pills (65%) was significantly higher than the actual percentage (7.5%). The percentage of individuals

who reported consuming 10 or more pills (2.5%) was significantly lower than the actual percentage (60%). The same was not found between the real and reported “five to nine pills” category ($p=1$). All p values were corrected with Bonferroni correction. We investigated which variables most significantly affected the participants’ error percentage when reporting their medication’s functionality. These results are shown in Table 1 ($R=0.799$ and $R^2=0.639$). We found that when participants classified their GP’s explanation about their medication’s functionality as “bad” or “very bad” their error percentage of increased, on average, by 36%; that for each additional pill taken daily, the error increased by 1.98%; that by being male the error increased by 17.19%; that when participants received a “fair” explanation regarding their diseases, the error increased by 23.22%; and that for each additional disease in their clinical record, the error increased by 3.4%.

Model	Coefficients ^a Non-standard coefficients		
	<i>B</i>	<i>t</i>	<i>p</i> Value
5 (constant)	4.298	0.411	0.662
• “Bad” or “very bad” explanation of medication’s purpose by the general physician	36.002	5.483	<0.001
• Number of pills consumed daily	1.984	2.992	0.005
• Male	17.185	2.583	0.014
• “Fair” disease explanation by the general physician	23.218	2.567	0.015
• Number of diseases in each participant’s clinical record	3.404	2.210	0.034

^a Dependent variable: Error percentage when reporting medication’s purpose

Table 1. Multiple linear regression of the participants’ error percentage when reporting medication purpose.

The pharmacological class of each drug consumed by the sample and the number of pills reported in each class are shown in Fig. 3.

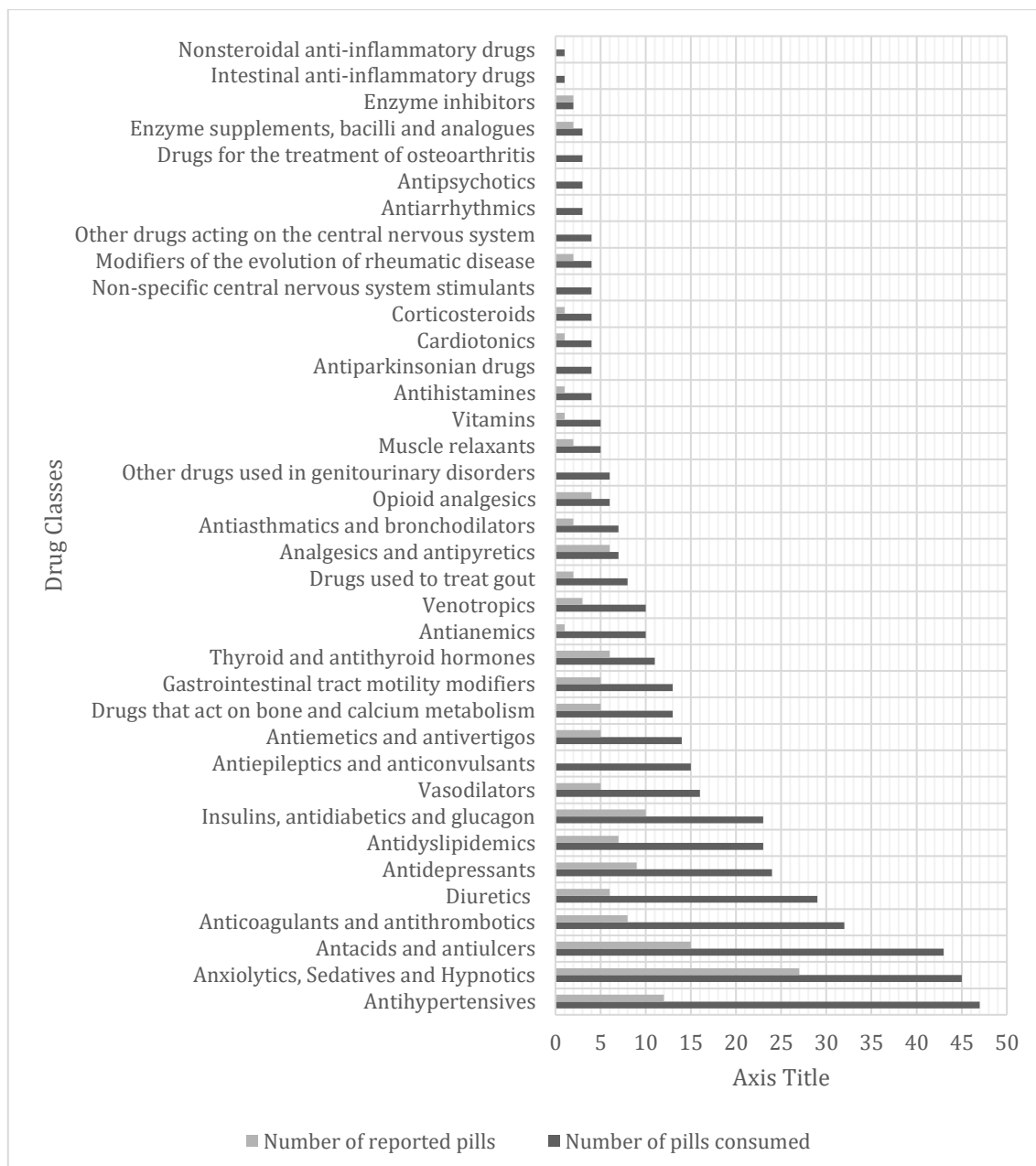


Fig. 3. Real and reported number of pills consumed by the sample.

3.4 Resident’s health literacy perception

Participants were asked to rate their knowledge regarding their own diseases and medication. The results are shown in Table 2. No statistically significant association was found between the participants' perception of their knowledge regarding their diseases and their true disease knowledge ($p=0.737$). Similarly, it was also not possible to find a statistically significant association between the residents' perception of their knowledge regarding their medication and their true medication knowledge ($p=0.267$). Participants were asked what reasons, if any, limited their knowledge regarding their own diseases and medication. The answers were categorized and are shown in fig. 4 and fig. 5.

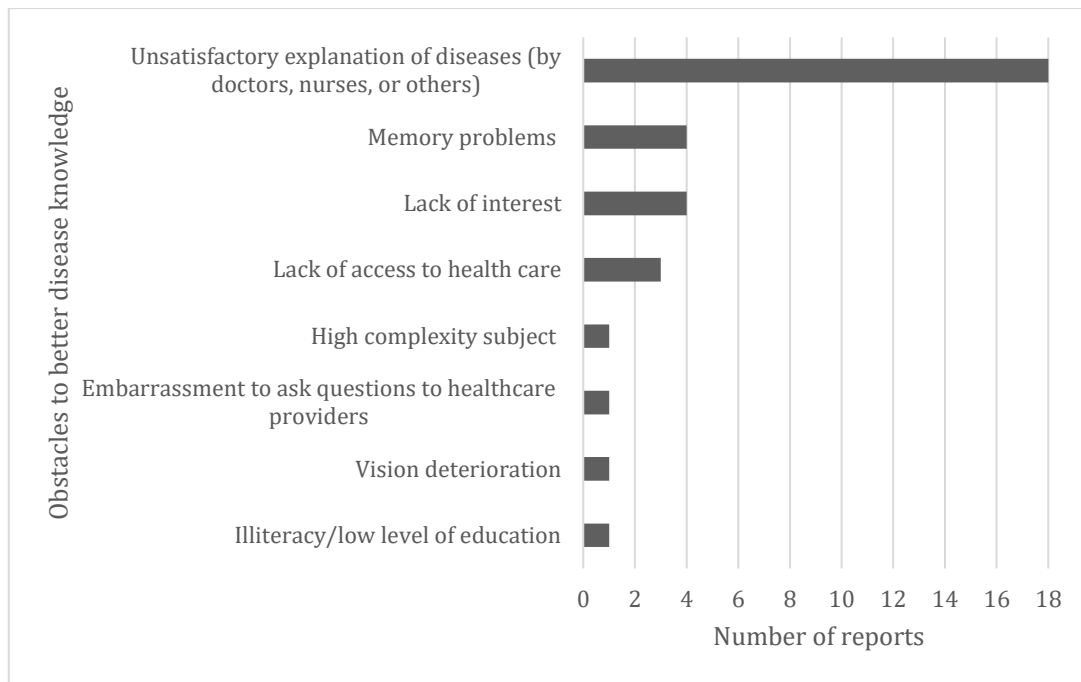


Fig. 4. Participants' perception of limiting factors to a better understanding of their diseases.

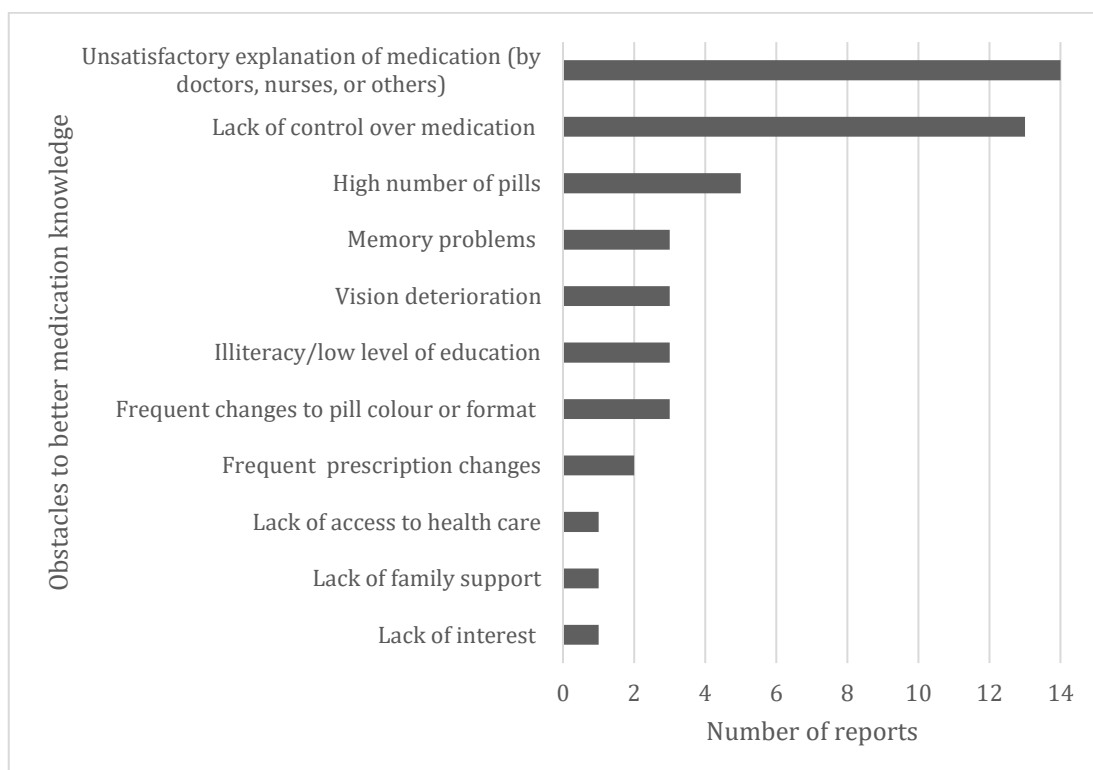


Fig. 5. Participants' perception of limiting factors to a better understanding of their medication.

Poor disease explanation, lack of memory and lack of interest were presented by participants as the biggest challenges to a better understanding of their diseases. Likewise, poor explanation of medication, lack of medication control and high number of pills were reported as the main challenges to a better understanding of the therapeutic plan.

3.5 Perception of general practitioners' communication skills

Participants rated the explanations provided by their GPs regarding their diseases, regarding the purpose of their medication and regarding their drugs' side effects. The answers are shown in table 2. Participants rated the explanations given by their GPs as mostly positively or as fair, except for the explanation of their prescriptions' side effects, which had a predominantly negative rating. Additionally, 70% of participants reported that their GP had never made any recommendations regarding nutrition and 22.5% of participants reported that their GP had never made any recommendations regarding physical activity.

	Very Bad	Bad	Fair	Good	Very Good
• Residents' perceptions of their knowledge regarding their own diseases	2.5% (1)	12.5% (5)	37.5% (15)	32.5% (13)	15% (6)
• Residents' perceptions of their knowledge regarding their own medication	12.5% (5)	10% (4)	30% (12)	40% (16)	7.5% (3)
• Residents' perception of the general physicians' explanation regarding their diseases	10% (4)	27.5% (11)	12.5% (5)	42.5% (7)	7.5% (3)
• Residents' perception of the general physicians' explanation regarding their medication	2.5% (1)	22.5% (9)	30% (12)	40% (16)	5% (2)
• Residents' perception of the general physicians' explanation regarding their medication's side effects	52.5% (21)	25% (10)	5% (2)	15% (6)	2.5% (1)

Table 2: Participants' perception regarding their own knowledge and their GP's performance

4. Discussion and conclusion

4.1 Discussion

Our study found that participants had little knowledge regarding their diseases (reporting 2.7 out of every 10). The same was observed regarding the name and purpose of the residents' prescriptions. However, participants did not show a significant lack of knowledge regarding the number of pills consumed daily (they were able to report 8.7 and name/explain the purpose of 3.3 in every 10 pills consumed daily). This lack of knowledge concerning prescribed medication coincides with a study by Gama et al. (2021) where 674 Brazilian adults over 60 years of age were interviewed and inquired about their prescriptions. The study found a high rate of medication functionality unawareness; observing that 40.4% of the sample did not know the indication for at least one prescription, while 11.6% did not know the indication for any of the prescriptions. [24] These findings emphasise the need to empower the geriatric population with knowledge concerning their health. However, it can be difficult to identify which elderly people need a higher level of intervention. Studies in this area describe how healthcare professionals lack training and skills in HL, and how they continue having trouble in correctly estimating the literacy of their patients, often overestimating it. [16-17,25-26] This study demonstrated that NH residents also overestimate their own literacy levels, presenting as an additional challenge to the correct identification of patients in need of intervention. This highlights the need for additional training for healthcare professionals, enabling them to correctly identify and educate patients in need. It also reaffirms the need for public health campaigns with the aim of increasing the HL of the general population. Both approaches have already been proven effective. [25-27]

Patient provider communication problems continue to be one of the main complaints regarding healthcare professionals. [10,18] Our sample corroborated these findings, as "poor explanation" was pointed out by participants as the main challenge to a better understanding of their diseases and medication. Complementarily, a statistically significant correlation was found between participants who reported their GP's explanations, regarding the purpose of their medication, as "bad" or "very bad", and a greater error when reporting the purpose of said medication. Additionally, "lack of medication control" was a frequent complaint from residents which, alongside complaints of poor explanation of the therapeutic plan and of frequent changes in pill format and colour, point to the lack of autonomy of the NH residing geriatric population with respect to their therapeutic plan. This highlights how NHs, despite preventing forgetfulness and supervising the correct implementation of treatment plans, deprive their residents of some of their main tools for knowing their prescriptions, limiting their autonomy, and impairing their literacy. Complementary, another study that took place in the same region of our sampled NHs, found that in their sample of geriatric participants without apparent cognitive deficits (not residing in NHs), 72.8% out of the 320 participants identified their medication through the medications' box, [28] a resource not available to NH residents. This study also found that a greater number of diseases in participants' clinical records, that a higher number of pills consumed daily, being male, and a "fair" explanation by the GP concerning diseases were correlated to a greater error when reporting the purpose of the consumed medication. In order to

promote HL in the NH residing geriatric population, we identified the need to: improve resident provider communication, to allow residents greater control over their own medication, to avoid overmedication, to avoid frequent prescription changes, and to avoid changing pill format or colour. These factors have already been identified, outside a NH context, as essential for therapeutic plan management and adherence. [13,28]

The side effect profile of medications is crucial information. Patients with chronic diseases are commonly unaware of the side effects of their medication, affecting therapeutic plan compliance and safety. [28-29] In this study, we demonstrated that it continues to exist great dissatisfaction with the information given by GPs in this area. This was the area in which GPs were classified the worst by the participants.

We analysed which diseases and prescriptions the participants reported the most. We found that diseases with greater impact on activities of daily living (ADLs) such as cataracts, gastritis and osteoarticular diseases were reported more significantly than diseases more prevalent in the sample but with lesser implications in ADLs (such as hypertension, hypercholesterolemia, diabetes). The most common diseases in our sample coincided with results of a study carried out by Rodrigues et al. in the same southern European population. [30] With regard to medication, residents had a better knowledge of drug classes used in pain relieve and sleep promotion. Of the five most reported drug classes, three had this purpose, while the other two were consumed in a very small amount, which could lead to a wrong perception of their knowledge. Prescriptions with more preventive purposes, such as antihypertensives and antacids/antiulcers, despite being more frequently consumed, did not have such high reporting rates. This leads us to believe that medications that quickly treat or relieve symptoms will be remembered more significantly by consumers. Additionally, “analgesics and antipyretics” are over the counter medications that residents can purchase for themselves and consume SOS. By having more control over the medication (buying, having the box and determining when to consume it) it may promote its knowledge, reinforcing the importance of autonomy and self-determination in HL.

By analysing the residents’ clinical records and therapeutic plan, we found that some diseases were valued more to the detriment of others. Taking into account the high number of pills in the category of “anxiolytics, sedatives and hypnotics” ($n=45$) and “antidepressants” ($n=24$), and due to the fact that there was only a single record of “insomnia”, no reference “anxiety” and only seven references to “depression” in the clinical records of the NHs, we can determine that either these diseases are undervalued by healthcare providers or that these providers are not identifying the respective conditions. A failure to identify these coincides with the literature on the subject. [31-32] However, even without diagnosing or referencing these conditions in the clinical records, we observed that residents continue to be medicated.

The researchers did not have access to or the possibility to calculate residents’ body mass indexes (BMIs). However, there were no records of pre obesity cases (0%) and only four records of obesity (10%) in the residents’ medical records. These values are far below what would be expected for this population (41.8% of pre obesity and 39.2% % obesity). [33] Making us believe that there was a great underreporting of “pre obesity” and “obesity” in the NH clinical records. Meaning that, even if healthcare professionals are able to identify these issues, they do not value

them enough to register them in the residents' clinical records. It is crucial to fight this devaluation, to inform and encourage medical teams to diagnose these conditions, record them in the respective medical records and advise/medicate appropriately. This apparent undervaluing of participants' BMIs may, in part, explain why 70% of participants reported never having had a nutrition discussion with their GP. Various studies describe how a significant number of physicians don't feel comfortable, confident, or prepared to give nutrition advice, ending up not doing so. The historical absence of nutrition in medical universities' curriculum and in residency programs seems to contribute to this problem. [34-35] Similarly, lack of training and qualification, lack of materials/protocols and lack of confidence in changing behaviours are presented as barriers for the prescription of physical activity by GPs. [36-37] However, this study found that a high number of participants (77.5%) reported having had conversations with their GP on this topic. This might be explained by the participants' need of physical rehabilitation and by the existing physiotherapy initiatives in some of the NHs included in the study. We highlight the need to incorporate nutrition and physical activity into the medical curriculum and to encourage physicians to carry out this type of recommendations.

4.2 Conclusion

This study found that elderly people without cognitive/auditory deficits, residing in NHs from two southern European cities, have inadequate knowledge of their diseases and that they don't have significant awareness of this lack of knowledge. We found that residents knew to a greater extent diseases that had more impact on their ADLs, to the detriment of other, more prevalent, diseases in the sample. Participants found it easier to report the number of pills that they consume than to report their name or purpose. Residents didn't show a significant lack of knowledge regarding the number of pills they consumed. However, participants medicated with less than five pills or medicated with ten or more pills didn't significantly know the purpose of their prescriptions. Drug classes used in pain relieve and sleep promotion were the best known by the sample. Participants identified patient provider communication issues as the greatest limiting factor for better disease and medication knowledge. Complementarily, lack of autonomy was presented as a relevant challenge to better understanding their therapeutic plan. Participants classified their GPs' communication skills mostly as "positive" or "fair" when explaining diseases and drug purpose. However, there was great dissatisfaction with the explanation of their medications' side effects. Lastly, we also found that nutrition was rarely discussed during appointments, while physical activity was discussed more often.

4.3 Practice Implications

This study highlights the low HL levels in NHs and emphasises the necessity to develop initiatives to combat this deficit. We identified a need to: train physicians in effective communication skills, to promote NH residents' autonomy, to avoid overmedication, to avoid frequent prescription changes, and to avoid changing pill format and colour. Furthermore, this study identified that NH healthcare providers were underdiagnosing and devaluating conditions such as insomnia,

depression, anxiety, pre obesity and obesity. Healthcare providers must be aware of these lapses, properly diagnose their patients, and to medicate appropriately and only when required. Lastly, we underline the need to better educate and encourage physicians to address nutrition during their appointments.

5. Study limitations

The study is limited by its sample size and by restricting its focus on two southern European cities. Only NH databases were analysed, the researchers didn't have access to any hospital databases. Communication failures between these institutions could lead to the omission of diagnoses. However, the researchers minimized any possible omission by assessing participants' medication and discussing why it was prescribed with the NHs' healthcare teams, thus detecting any omissions.

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7.Appendixes:

Appendix I - Consentimento Livre, Informado e Esclarecido

Appendix II - Parecer da Comissão de Ética da Faculdade de Ciências da Saúde da Universidade da Beira Interior

Appendix III - Questionário utilizado na investigação

Appendix IV - Certificado de apresentação do artigo no I Congreso de Envejecimiento y Salud, Salamanca, Espanha

Appendix I

CONSENTIMENTO LIVRE, INFORMADO E ESCLARECIDO (CLIE)

Eu, Maria da Assunção Morais e Cunha Vaz Patto, investigadora e professora na faculdade de Ciências da Saúde da UBI e investigador principal do estudo "Does your geriatric patient know his diagnosis and treatment plan? Implications on health outcomes, medical practice, and research.", que pretende avaliar o nível de literacia em saúde da população idosa institucionalizada em ERPI's, venho pedir que connosco colabore, pois sem a sua participação não será possível concretizar com êxito este projeto. O que solicitamos é a sua colaboração na aplicação de escalas de geriatria, sendo que estas trazem como benefícios uma melhor compreensão clínica e psicológica da sua situação e do contexto em que se insere. Para a realização do estudo será também necessário acesso, por parte dos investigadores, ao seu registo clínico de forma a poder corroborar as suas respostas ao formulário. A este estudo não está associado qualquer risco para os participantes.

Este trabalho envolve como investigadores Carlos Alexandre Quirino Laura Silva, Rosa Marina Lopes Brás Martins Afonso e Maria da Assunção Morais e Cunha Vaz Patto e é feito sem apoio financeiro.

Os investigadores envolvidos têm neste projeto benefícios de carácter meramente científico e académico.

A sua confidencialidade está garantida uma vez que os seus dados serão recolhidos de forma codificada sendo que apenas os investigadores (Carlos Alexandre Quirino Laura Silva, Rosa Marina Lopes Brás Martins Afonso e Maria da Assunção Morais e Cunha Vaz Patto) têm acesso aos seus dados pessoais, os quais, em todo o caso, não serão divulgados, pois serão utilizados sob codificação. A participação que solicito é voluntária, isto é, não se sinta obrigado a participar, e pode decidir não participar desde o primeiro momento ou noutra qualquer, sem que daí advenham quaisquer prejuízos para si em qualquer perspectiva. Uma vez que a sua decisão de participar é voluntária, livre, e informada pelo presente documento, mas também esclarecida em tudo o que tiver dúvidas, qualquer pergunta, dúvida ou informação adicional de que necessite para a sua decisão poderá ser-me colocada ou transmitida através do meu email – mariavazpato@gmail.com, ou do meu telefone 914094686

Ao assinar este documento confirmo que, em nome da equipa de investigação, transmiti toda a informação nela contida, e expliquei e dei resposta a todas as questões e dúvidas apresentadas pelo participante.

_____, ____/____/____

Ao assinar esta declaração assumo que irei colaborar livremente, que li e compreendi a informação e os esclarecimentos que me foram dados, e a meu contento, acerca da minha participação, e tive tempo suficiente para me decidir e neles ponderar. Aceito participar nas tarefas que me são solicitadas, sabendo que nada me impede de mudar de posição, sendo que poderei manifestar o desejo de não colaborar, sem que tal implique quaisquer perdas de direitos ou acarrete prejuízos pessoais. Tenho conhecimento de que um original deste documento, assinado por ambos os subscritores, fica em minha posse.

_____, ____/____/____

Appendix II



Comissão de Ética
Universidade da Beira Interior

comissaodeetica@ubi.pt
Convento de Santo António
6201-001 Covilhã | Portugal

Parecer relativo ao processo n.º CE-UBI-Pj-2022-032-ID1319

Na sua reunião de 19 de julho de 2022, a Comissão de Ética apreciou a documentação científica submetida referente ao pedido de parecer do projeto **“Does your geriatric patient know his diagnosis and treatment plan? Implications on health outcomes, medical practice, and research”**, da proponente **Maria da Assunção Morais e Cunha Vaz Patto**, a que atribuiu o código n.º CE-UBI-Pj-2022-032.

Na sua análise não identificou matéria que ofenda os princípios éticos e morais, sendo de parecer que o estudo em causa pode ser aprovado.

Covilhã e UBI

A Presidente da Comissão de Ética

Assinado por: **ANA LEONOR SERRA MORAIS DOS**

SANTOS

Num. de Identificação: BI112741975

Data: 2022.09.11 22:39:11+01'00'





(Professora Doutora Ana Leonor Serra Morais dos Santos)

(Professora Auxiliar)

Appendix III

Literacia em Saude, População ERPI's

 [REDACTED] (não compartilhado) 

[Alternar conta](#)

***Obrigatório**

Identificação Residente *

Sua resposta _____

Estado Cognitivo *

Sem Déficit

Déficit Ligeiro

Informação não disponível

Gênero *

Masculino

Feminino

Idade *

Sua resposta _____

Há quanto tempo reside em lares? *

Sua resposta _____

Apoio Social (nº de visitas mensais) *

Sua resposta _____

Apoio social (nº contatos telefônicos/videochamada semanais) *

Sua resposta _____

Nível de Educação ("Quantos anos andou na escola?") *

Sua resposta _____

Appendix III

Avaliação de Literacia

-Todas as questões irão ser colocadas exatamente como escritas em baixo
-Ao perguntar problemas de saúde/doenças NÃO aceitar respostas como "problema do coração/ problema de sangue". Caso seja dado uma resposta dentro deste modelo perguntar: "E sabe explicar ou nomear essa doença/problema de saúde?". Se o utente não for capaz de nomear a patologia OU fazer uma descrição adequada da mesma, não aceitar a resposta.
-Ao perguntar a funcionalidade da medicação NÃO aceitar respostas como "para o coração/ para o sangue". Caso seja dado uma resposta dentro deste modelo perguntar: "E sabe nomear ou explicar para que serve a medicação?". Se o utente não for capaz de nomear a medicação OU fazer uma descrição adequada da mesma, não aceitar a resposta.

Tem alguma doença? Se sim quais? (Esperar por final da resposta do utente e perguntar apenas "mais alguma coisa?", quando não houver mais respostas passar para a próxima questão) *

Sua resposta _____

Tem algum problema de saúde? Se sim quais? (Esperar por final da resposta do utente e perguntar apenas "mais alguma coisa?", quando não houver mais respostas passar para a próxima questão) *

Sua resposta _____

Quantos medicamentos toma por dia? *

Sua resposta _____

Para que serve a medicação que toma? Qual o seu propósito? (Esperar por final da resposta do utente e perguntar apenas "toma medicação para mais alguma coisa?", quando não houver mais respostas passar para a próxima questão) *

Sua resposta _____

Appendix III

Apreciação de Esclarecimento Médico

-Todas as questões irão ser colocadas exatamente como escritas em baixo

Como avalia a explicação que o seu médico lhe deu sobre os seus problemas de saúde e doenças? *

- Muito Boa
- Boa
- Razoável
- Má
- Muito Má
- Nega ter problemas de saúde/doenças

Como avalia a explicação que o seu médico lhe deu sobre a funcionalidade/propósito da sua medicação? *

- Muito Boa
- Boa
- Razoável
- Má
- Muito Má
- Nega tomar medicação

Como avalia a explicação que o seu médico lhe deu sobre os efeitos secundários da sua medicação? (antes de colocar a questão confirmar que o residente conhece o termo "efeitos secundários", caso não conhecer explicar definição) *

- Muito Boa
- Boa
- Razoável
- Má
- Muito Má
- Nega tomar medicação

O seu médico fez recomendações em relação à sua alimentação? *

- Sim
- Não

O seu médico fez alguma recomendação de atividade física (caminhadas, natação, ginásio...)? *

- Sim
- Não

Appendix III

Quão bem conhece a sua medicação? *

- Muito bem
- Bem
- Razoavelmente
- Mal
- Muito Mal
- Não tomo medicação

Porque razão/razões não conhece a sua medicação "muito bem"? *

Sua resposta

Quão bem conhece seus problemas de saúde e doenças? *

- Muito bem
- Bem
- Razoavelmente
- Mal
- Muito Mal
- Não tenho doenças/problemas de saúde

Porque acha que não conhece os seus problemas de saúde/doenças muito bem? *

Sua resposta

Appendix IV



CERTIFICADO DE PARTICIPACIÓN COMO PONENTE

El comité organizador y científico del I Congreso de Envejecimiento y Salud, presidido por Dña. María Isabel Macías Tello, concejala delegada de Mayores del Ayuntamiento de Salamanca certifica que:

Don Carlos Alexandre Silva participa en el Congreso, en la sección Presentación de Comunicaciones, con la comunicación “¿Conocen los usuarios sus diagnósticos y plan de tratamiento? Percepción y factores limitantes de la alfabetización en salud en ERPIs de Beira Interior”, programada para el VIERNES 21 de octubre a las 16:00 horas. El encuentro tiene lugar en el Palacio de Congresos de Salamanca.

Y para que así conste, se expide el presente certificado, en Salamanca a 21 de octubre de 2022.



www.congresoenviejecimientoysalud.com