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Interdisciplinary intervention plan on the informal caregiver – a mixed methods study

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Abstract

Background An Interdisciplinary Intervention Plan (IIP) for the informal caregiver (IC) aims to primarily assess the health and social needs felt by the IC in caring for the person being cared for. Consequently, after the development and implementation of the IIP, as a result, professionals may intervene, trying to meet these needs and allow a higher quality of life for both. The study aims to assess the IIP implementation process and content validity. Specific objectives: i) Analyse the perception of the professionals who use the IIP and ii) Assess the users' agreement concerning the IIP items.

Methods The IIP consists of a first part characterizing the IC and the person being cared for, and then, a second part consisting of 49 items divided into 6 domains. The implementation of the IIP was carried out by an interdisciplinary team in each municipality of the Autonomous Region of the Azores that includes professionals from the health and social areas.

A mixed approach was used to analyze professionals' perceptions, using focus group content analysis for qualitative research, a Content Validity Index (I-CVI), and a modified k for quantitative research.

Results In the Clinical Professional Perceptions of IIP, two dimensions emerged from the content analysis. The first was "The IIP implementation process" where the categories "Need for logistical support" and "Reinforced interdisciplinarity" emerged. The second dimension "The functional content and organization of the IIP" where the categories: "Responses to the needs of IC", "Need to manage the expectations of the caregivers", "Opportunities for improvement in the content of the IIP " and "Computerization of the IIP" emerged.

The analysis of the professionals' agreement, demonstrated that most items were rated as "Excellent" for their relevance (91.8%) and their formulation (95.9%), being assumed their comprehensibility. Concerning relevance two items were classified as "poor": "Information and Communication Technologies" and "Accessibility to another division". Another 2 items were rated as "reasonable": "Promote participation in socialization activities" and "Volunteering".

Conclusions The results show the validation of the IIP, proceeding with the necessary changes according to the results obtained, to become a tool available to professionals in the home care context.

Keywords Informal caregiver, Intervention plan, Validation studies, Home care services, Interdisciplinary studies

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Background

Population aging is a common characteristic of most countries worldwide. Several factors mean the population over 60 gradually increases and the aging rate is socially worrying [1]. The exponential increase in the elderly population which, because of aging, requires greater care provided by third parties, associated with a social and cultural transformation of the family and its members, leads to a possible problem of lack of capacity of qualified caregivers to provide quality care to people who need it. This is where the role of the informal caregiver emerges as crucial in the first line of care provision.

However, to provide quality care, the informal caregiver has to be seen as a person, with full right to act in the healthiest way possible, which is why regulating and monitoring conditions for providing care emerge as a management strategy. facilitating healthy aging [2].

The Aging Index in Portugal has been increasing consecutively since 2011. Furthermore, the age pyramid has undergone significant changes, highlighting a substantial increase in men and women aged 45 or over and, in the opposite direction the population under 45 [3].

In 2019 the Informal Caregiver Statute was approved in Portugal. This was a significant social milestone for all caregivers, who until then were not recognized as a crucial component of the healthcare structure. An informal caregiver is someone who takes regular or permanent care of a family member who is in a situation of dependency and needs permanent care [4].

In addition to the rights granted by law, the informal caregiver must care for and respect the person being cared for and contribute to his/her autonomy and independence maximization. Being a caregiver is physically, psychologically, and socially demanding, so this person needs to be accompanied by social and health professionals and be able to get help and answers according to the circumstances and needs that arise daily [5].

With the publication of the legislation on the informal caregiver and the need for support, it was important to build an IIP with an interdisciplinary nature. [6] Interdisciplinary intervention plans (IIPs) are essential tools for the ongoing monitoring of informal caregivers. Besides equipping caregivers with knowledge, skills, and abilities, these plans assess critical aspects such as caregiver burden and quality of life. This IIP assesses the needs felt by the informal caregiver and the person being cared for in their daily life, and, based on that, through an organized structure, tries to address these needs and, consequently, provide a better quality of life to both the informal caregiver and the person being cared for [6, 7].

Several studies have already examined the causes and factors influencing the burden of informal caregivers. A study in a rural city in Nepal [1] found that around 80% of informal caregivers had little or no burden related to care, largely due to the cultural issues present there [2]. However, in another study, caregivers revealed that their social life and rest were affected due to the care they had to provide, feeling “trapped” and afraid of their role as caregivers [8]. Therefore, following national and international literature, and recognizing the imperative need to meet the needs of informal caregivers, we aim to enhance the well-being of both. We intend to evaluate the IIP implementation process and assess its content validity. Specific objectives have been defined, such as: i) Analyze the perception of professionals who use IIP and ii) Assess the users’ agreement concerning the IIP items.

Methods

This study employs mixed methods, incorporating a qualitative and exploratory approach using focus groups to analyze the structure and organization of the IIP, alongside a quantitative approach to assess content validity. To better understand the population and study subjects, it is important to note that the implementation of the IIP is conducted by an interdisciplinary team in each municipality of the Autonomous Region of the Azores (ARA), comprising health and social professionals. In total, there are 19 teams involving 49 professionals.

Before the data collection, the script was tested with a group of health and social professionals from a health unit outside the region where the study was conducted. The questions, created exclusively for this study, and included in the interview guide (supplementary file), essentially addressed two areas. The first area related to the implementation process of the intervention plan and the relevant aspects for informal caregivers, the people being cared for, and the informal caregivers support teams. The second area related to the content of the IIP, where the questions focused on the aspects to be improved and the constraints experienced by professionals in its implementation.

For the qualitative study, four of the nineteen ARA teams were selected. The selected teams belong to the largest island in ARA, where around 57% of the total population lives. With this selection, it was possible to integrate larger and smaller teams, given that the population residing in the different municipalities is substantially different. The focus groups with these four teams were carried out on the same ARA island, audio recorded and transcribed between November 2021 and March 2022.

In the quantitative component, the study population included all the members of the nineteen teams of ARA. All of them were invited to participate. This survey was applied in April and May 2022.

The IIP consists of two parts: the first part characterizes the informal caregiver and the person receiving care and the second part includes 49 items addressing the informal caregiver needs. These 49 items are divided into 6 domains: "Empowerment for the role" - 11 items; "Material resources" - 5 items; "Structural resources" - 5 items; "Social support" - 19 items; "Family support and individual management" - 6 items; "Health support of the informal caregiver" - 3 items. For each of the assessed items, appropriate interventions to the needs were defined, which will be selected by the different professionals, with the possibility of being reassessed.

Performed content analysis and the analysis of the speeches was supported through the WEBQDA 3.0 software [9].

In the quantitative component, an online survey was distributed via the regional coordinator to all teams, allowing them to evaluate the IIP's content for item relevance and clarity for informal caregivers. This online survey included 2 questions for each IIP item. The first question was related to the agreement of including each item in the IIP, with three response options: strongly agree; relevant but not essential; and strongly disagree. The second question inquired about the clarity and ease of understanding of the wording of the IIP item, with two response options: yes; or no.

The item content validity index (I-CVI) and the modified K were calculated for the IIP items using SPSS 26.0, where, for the first question, only the option "strongly agree" was considered relevant [10].

Regarding the ethical aspects of the study, the participants in the focus groups were given informed consent, which they read, signed, and kept a copy of. The participants in the online survey only continued to complete the questionnaire if they agreed with the information provided in the informed consent. This study was approved by the ethics committee of the Portuguese Society of Mental Health Nursing (Legal Opinion 04/PS/2021). All the procedures followed relevant guidelines and regulations.

Results

The results are presented in two parts: a qualitative part, related to the focus group with the users of the intervention plan, and a quantitative part, where the results of the users' agreement about the content of the IIP are demonstrated. The perceptions of clinical professionals about IIP from the focus groups brought important information about the implementation of IIP to the informal caregiver defined by his authors [6].

Two dimensions emerged from the analysis: the IIP implementation process and the functional content and organization of the IIP itself – Fig. 1. The subcategories associated with each category are described throughout the text.

In the dimension called "The Interdisciplinary Intervention Plan Implementation Process", it was possible to analyze the perception of users, which highlights the articulation between the informal caregivers' support offices and the interdisciplinary culture in addressing the caregivers' needs. Two categories emerged in this dimension: the "need for logistical support" and the "reinforced interdisciplinarity".

To begin the construction of a project and ensure its future continuity, it is necessary to provide the essential conditions to the professionals who will integrate it, hence the category "need for logistical support" emerged. In the health or social services field, the presence of qualified personnel is crucial to ensure the successful implementation of any program. Thus, it was possible to verify that, in the opinion of the professional users, human resources are essential for effective monitoring, with the possibility of timely intervention given the identified needs. To avoid reducing the application of this IIP to a mere administrative procedure, there is a perceived necessity to incorporate additional professionals to accommodate the growing number of caregivers.

> *"...given the volume of cases that we have (...) it was necessary to have a full-time person here" PDL2, "we are aware that we will not be able to do it in time (...)" PV2, "...either we follow up, promote intervention, or we are doing administrative paperwork..." RG2*

Associated with the mentioned lack of human resources, the importance of greater time availability for the field assessment and follow-up of the informal caregiver, as well as for managing the documentation inherent to the IIP on the IT platform, was mentioned in all groups.

> *"I'm here in the morning today doing appointments, but now I have to take all the files and I have to work on them (...) in my hours at my place of service." (PDL2)*

To implement the IIP, professionals must have the *resources and working conditions* to meet the needs of the caregiver and the person being cared for. At this level, it was mentioned that the existence of means of transport available for professionals to travel to the home becomes an essential resource for project implementation. The availability of this resource plays a crucial role in boosting the satisfaction of the professionals involved and ensuring the successful implementation of the project.

> *"We have to check with our institutions to see if there*

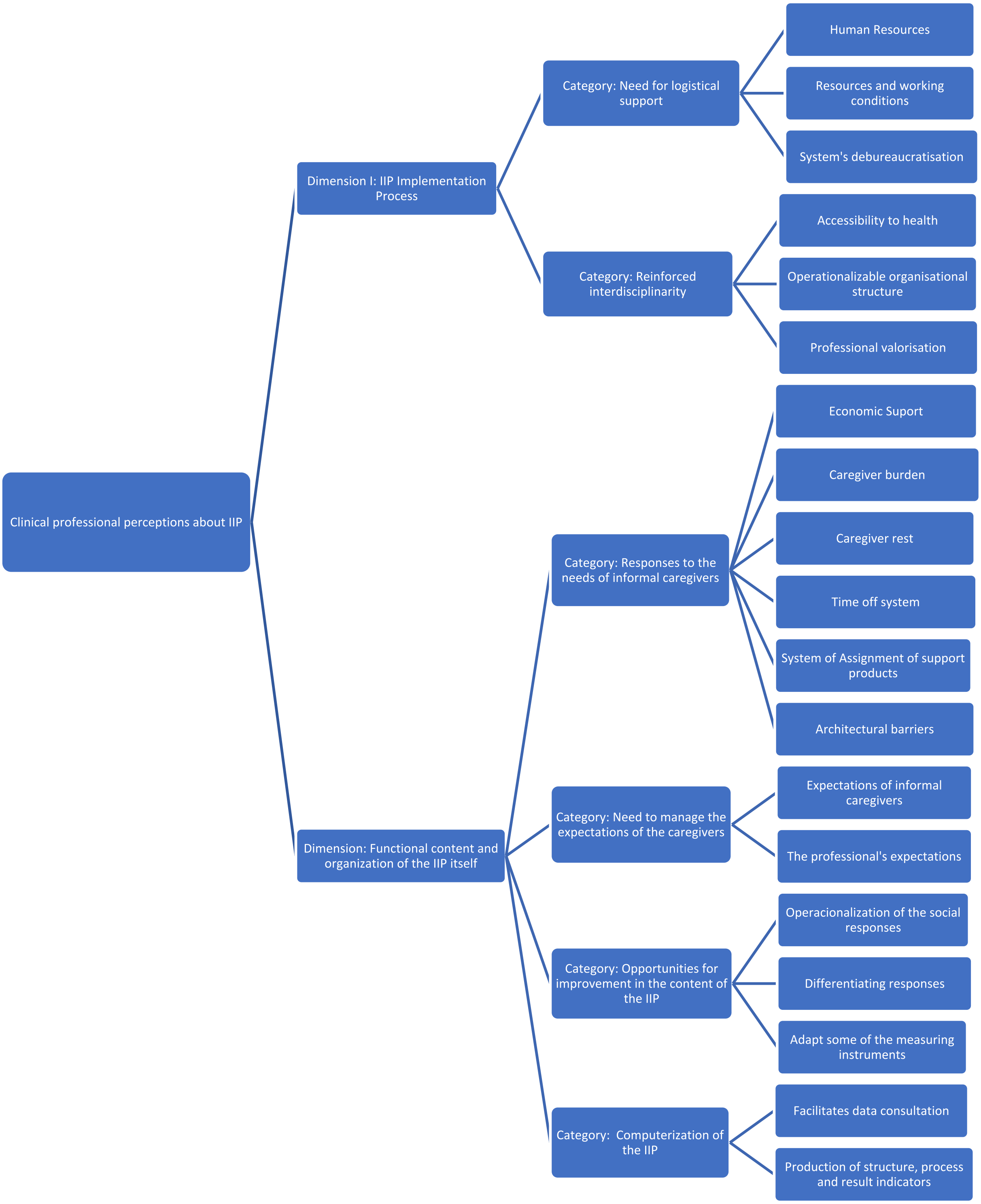

Fig. 1 Results of clinical professional perceptions about IIP

is an available vehicle" PDL5... "From the point of view of vehicles (...) Today I may have... tomorrow I may not have..." RG2

On the other hand, professionals emphasized the significance of electronic devices for logging informal caregivers' data and storing copies of necessary supporting documents. In addition to the ease of registration, it maximizes the professionals' time, avoiding the duplication of records and reducing the *system's debureaucratization* for the caregivers, as it allows them to provide all the information without leaving home.

> *"The photograph is taken with our mobile phones (...) the whole process is extremely complex..." RG3, "...there are all the logistics here, which need to be improved (...) a tablet, a computer... we would introduce for good" PDL3... "what could be facilitated, is highly complicated... it is so bureaucratized, that it is not at all practical for us, for them, there were nowadays easy ways to check all this information" RG3...*

The implementation of an IIP to meet the needs of informal caregivers cannot be restricted to one professional area. This is the perception of users, which is why the category "reinforced the interdisciplinarity" emerged, which reinforces the importance of support teams for the PII implementation, made up of elements from the health and social areas. This reality allowed them to have a dynamic and continuous construction process, generating knowledge, defining strategy, and prospective vision, and managing positive expectations.

> *"The implementation of this project sustained by this premise of interdisciplinarity instilled the commitment and the assumed involvement of a structured and interrelated set of all organizations, people, and actions, whose plan is the best response to the needs of the informal carer." PDL2*

The *accessibility to health care* was another aspect reinforced by the study participantssince they considered it to be one of the fundamental pillars for the informal caregiver, the possibility of access to health care services in an equitable and timely manner. In terms of accessibility, it is possible to verify that with the implementation of the IIP, the professionals were able to cover practically all the informal caregivers identified, as evidenced by the professionals:

> *"The added value (...) is that it is a way of structuring and compiling the registration of all caregivers" (PV3) ... "we practically know all caregivers..." (PV4) ...*

The involvement of professional users from different areas in the planning and operationalization process of the intervention plan is important for those involved to feel they are an integral part of the project. In this way, it became possible to ensure an *operationalizable organizational structure*, making it so that the IIP thought in the theoretical context can be easily applied in the practical context.

> *"We manage to solve situations promptly, sometimes a phone call is enough..." PV2*

This aspect was mentioned as a constraint by those professionals who were not involved since the start of the project construction and development.

> *"I remember I went on holiday in August and when I returned, ... I was contacted for a training on the platform, through Teams, where not everyone was present, including the colleague here" RG3...*

The implementation of an organized and structured IIP, through the prior assessment of needs, using the existing resources in the community, in addition to ensuring answers for the informal caregiver, was highlighted as a factor of *professional valorization*, collectively motivating professionals and adding individual value to it, as mentioned in the following excerpt.

> *"It is a lengthy process, but it has been rewarding for our team, we have grown personally and professionally." PV4*

In the dimension "Functional content and organization of the IIP itself", it was possible to analyze the users' perceptions of the IIP, and four categories have emerged. They were: "responses to the needs of informal caregivers", "the management of expectations", "the opportunities for improvement in the content of the IIP", and the "computerization of the IIP".

In terms of addressing the needs of informal caregivers, the registration units obtained were associated with the rights of caregivers as outlined in the legislation. The professionals reported that, initially, *economic support* was one of the most requested rights by caregivers when they applied to be formally recognized as informal caregivers. *"the financial support which is what families are most looking for" RG4, "what people want here is the economic component." PDL2.* In addition, these professionals received several contacts requesting the calculation of the amount that each caregiver could earn.

The *caregiver burden* is evident in the registration units of the professionals in the focus groups. They mentioned the burden as a real problem, multi-causal and difficult to mitigate, which requires effective and, in some cases, immediate answers.

> *"The caregivers in general, they are devoted caregivers, of a surrender to that person, then there is exhaustion, there is the fatigue, but they don't question the person cared for." RG3. "There is caregiver overload..." ND1*

In this sequence, *caregiver rest* is also one of the rights that informal caregivers often seek. Often this demand is triggered by fatigue and the burden of being a caregiver continuously.

> *"... we have had some families come to us with the rest request, that is, for overburdening the caregiver" RG4. Her main expectation was the caregiver's rest" RG4.*

Health professionals indicated there still is a significant progress needed for the right to time off system, as they believe that adherence has been relatively low.

> *"So, we're going to take the time off that we talked about here... (...) But there are no requests... (...) People say that it's not worth it! (...) it is a paid service" PDL2...*

The low adherence to the right to time off system may be related to the associated payment and the need for institutions to be adjusted to meet caregivers' needs adequately.

> *"... getting a caregiver exactly for that day, for those two hours, for the institution is going to be extremely difficult" PDL4.*

The morbidities and dependence of the person under care require support devices, whether they are more direct to the patient or aimed at supporting the care provision by the caregiver. Thus, the *System of Assignment of Assistive Technology Products* allows the supply of devices that enhance the quality of life and guarantee the performance of some daily activities.

> *"... a bank of technical help that is better equipped and that gives a timely response to these families, by municipalities" PV2.*

In the subcategory of *architectural barriers*, the professionals' statements are quite encouraging and positive since it was a limitation that prevented the mobility and performance of some basic needs of dependent people. The elimination of barriers facilitates the provision of some care with other conditions types, as is the case of hygiene care that is now provided in the shower since the bath is impeded to perform it in the bathroom.

> *"At the local level, we have good feedback... it allows another type of freedom and care that was impossible before, as is the case of the baths…" PV2.*

The "management of expectations" was another category that emerged, which, according to the analyzed registration units, could be divided into two subcategories: expectations of the informal caregivers and expectations of the professionals who used the intervention plan.

This analysis allows identify that the *expectations of informal caregivers* are polarized. If, on the one hand, there are some disappointments regarding what the media and society conveyed regarding the answers, the rights, and the conditions that would be "theoretically" offered (some of them are not yet operationalized or available).

> *"...regarding working people, there was a lot of expectation here that workplaces would be flexible, a reduction in terms of working hours, the law does not provide for that" PDL2. "the expectation was so high and created around this legislation, these rights, the dissemination that was done..." PV2*

On the other hand, many caregivers also mentioned that it was with this type of resource and organization that they became aware of some of the responses that exist in the community and that, until the moment when the care plan was presented to them, they were unaware of. As PDL5 states, *"...sometimes it is better to have this type of information to find out who can help us than the subsidy we can receive at the end of the month".* This aspect shows that, in certain situations, more than the financial component, the relevance of these measures lies in the social or working conditions that may enhance care within the family environment.

At the same time, *the professionals' expectations* were also commented on in the focus groups and analyzed, as they also showed an ambivalence of realities regarding what they expected from this new form of care organization. The aspects that remained beyond their expectations were in line with what was mentioned for informal caregivers.

However, the philosophy and organization of the IIP allow for a more complete follow-up of the caregiver and the person being cared for, from the initial assessment, through the definition of interventions, to the monitoring of the results obtained. This prevents the loss of information during this process or the definition of isolated interventions for the informal caregiver, without a previous analysis of his/her needs. The existence of indicators to monitor results was valued positively.

> *"Regarding the advantages, we think that it meets people's real needs and allows for a continuous follow-up, without losing them along the process" PDL2. "The existence of structure, process and result indicators was an aspect that surprised us very positively" RG2.*

Considering that any project must be subject to evaluation and analysis, it is normal that some aspects may be changeable. From this perspective, no one is better than the professionals in the field who are applying and using the IIP, to contribute in terms of "opportunities for improvement in the content of the IIP". This category is divided into four subcategories: operationalization of social responses; lack of responses described in the legislation; work measures for the caregiver and adaptability of measurement instruments.

The *operationalization of the social responses* described in the law on the status of the informal caregiver is extremely important, as their availability at the right time may or may not improve the quality of life of both the caregiver and the person being cared for. The example of the pool of caregivers and the self-help groups are the examples described that deserve more directed attention to be implemented.

The pool of caregivers, which is a differentiating and specific response in this region, needs to be made operational so that it becomes available for caregivers to use, as it is a pool of professionals and non-professionals who can provide technical support in care provision or other areas of basic human needs of the person and his/her caregiver.

> *"The caregivers' pool, we have some carers here who question it, but..." RG4... "It does not exist yet, it is recommended, but it is not yet implemented (...) and the same happens with the self-help groups" PV2...*

The fact that we are facing a tendency towards a rural environment, in which there is community activity of proximity, these two responses would be important in minimizing the impact on caregivers.

Besides the social and health responses associated with the IIP, some *differentiating responses* that could be included were identified. Establishing specific care protocols and directing patients to the healthcare team is crucial to providing more individualized care. The example of positioning in the prevention of pressure injuries was used. Additionally, professionals emphasized the importance of identifying architectural barriers for the individual receiving care and for the informal caregiver.

> *"one of our biggest problems is positioning, some regularity to prevent pressure ulcers... (...) we have no answers at this level..." PV4... "One of the issues here in the architectural barriers, (...) we find it pertinent that architectural barriers are also included both for the caregiver and the person being cared for." RG4*

Although it is pending governmental decisions, it was mentioned that the financial support should be improved, as it becomes derisory or non-existent given the caregivers' needs. The formula used to calculate the subsidy is beyond the control of the users, but it hinders their ability to adhere to the defined IIP. On the other hand, some suggestions associated with reducing co-funding in some social services are also described, as is the case of access to the pool of caregivers and the time off system.

> *"the time off system should be a service that should be offered, free of charge, but it is not..." PV4 "I can even have a person with dementia, who even takes a few steps, who has the support to the third person and is contemplated for financial support (...) In the same way, I have a person who takes care of his mother, who even has dementia, she is not considered as having mental illness, she is in the first degree and her support is immediately cut off." RG3*

It was reinforced that it would be important to include specific employment measures for informal carers, safeguarding the possibility of combining work and care activities. These measures could include flexible working hours or reduced hours without penalty.

> *"... sometimes, even employers realize that there is a need for flexible working hours, because ... those who work for the public administration already have the possibility of flexible working hours, but there are those who do not work" PV2 "There should be no tax penalties for caregivers who cannot work or are forced to reduce their working hours" PDL1*

To fully develop the opportunities for improvement, it was recognized that adjustments needed to be made to certain measuring instruments connected to the IIP. The constraints expressed relate to the repetition of some questions between the different scales, as well as certain questions not being adequate to the specific situation of the caregiver (if they are children or disabled people being cared for). As for the response options, some constraints were also expressed regarding the caregivers' understanding, since some response levels may seem similar.

> *"The scales are easy, but they don't always meet the person's situation. Sometimes some questions don't make sense" PDL2. "And people (...) Sometimes they get bored... (...) we have to go into detail (...) But rarely? But occasionally? But occasionally is it three or four times? RG2. "What we also notice is that sometimes, in the application of the scales, and even in these models that you have, there are questions that are a little repetitive...". PV2.*

The IIP implementation for the informal caregiver with this magnitude and level of detail is only possible since there is a "computerization of the IIP", ie, with the support of a computer platform to store the records. Although there is still no mobile hardware to record information at home and avoid the existence of paper and computerized records, (thus requiring their duplication) computerized documentation *facilitates data consultation*. On the other hand, it also issues surveillance alerts with dates and times for certain predefined monitoring. Another added value of a computerized registration platform is the *production of structure, process, and result indicators*, where the last type of indicator is an innovation at the level of IIP for informal caregivers.

> *"... it's a process that compiles a lot of important information and (...) it compiles all the needs of that family of the cared person, so it's very good in that sense..." PDL2. "This document is even well structured because it has reminders" ND1. "... and it allows extracting very interesting data and indicators for the caregiver" RG2.*

The online survey for content validation was completed by 15 (31%) of the 49 potential participants. Two items were classified as "poor" in terms of relevance: the item "Information and Communication Technologies" in the domain Material Resources (I-CVI of 29%, modified K value of 0.24) and the item "Accessibility to another division" in the domain Structural Resources (I-CVI of 43%, modified K value of 0.30). Another two items were rated as "reasonable" concerning relevance: in the domain of the Training for the purpose, the item "Promote participation in socialization activities" (I-CVI of 57%, modified K value of 0.48), and in the Social Support domain, the item "Volunteering" (I-CVI of 54%, modified K value of 0.42). All other items were rated as "Excellent".

The results obtained from the analysis of professionals' agreement, regarding the IIP items, revealed the relevance of all items and their maintenance in the IIP.

Discussion

In this study, the results demonstrate the problem of aging in Portugal, more particularly in ARA, and the consequent planning of social and health programs that are framed with this problem and that aim to respond to the real needs of caregivers and cared-for people, always with the main objective of promoting healthy aging and fully maximizing the capabilities of both the caregiver and the person cared for. Healthy aging is a priority not only in Portugal but also in developed countries [2].

Health and social professionals in this study consider this interdisciplinary monitoring of informal caregivers and people cared for at home extremely important. However, the scarcity of human, physical, material, and time resources makes it difficult for IIP implementation to be operational under the best conditions. Furthermore, these experts emphasize the significance of having adequate resources and knowledge to address the genuine needs of informal caregivers. They also stress the importance of actively contributing to the rights fulfillment of informal caregivers, which have been legally established since 2019, fairly and appropriately.

The results align with various authors who argue for the significance of prioritizing home for the person being cared for and their caregivers. These authors emphasize that home care should receive attention and priority in social and health policies [11]. Regarding interdisciplinarity, emphasize that continuous and multidisciplinary care must be a reality given the needs of the patient and family caregiver. Interdisciplinarity promotes and considers the globality of essential care for the caregiver-patient dyad, a relevant factor in users' accessibility to health services and the success of home care.

It is also worth highlighting the importance of the team nurse in training the caregiver for the role of caregiver, as well as in counseling, to prevent the emergence of problems that could negatively affect the caregiver and the person being cared for [6].

In terms of the content and structure of the PII, the professionals emphasized the caregiver's burden, which effectively encompasses the majority of their interventions in the PII. This is because the burden is inherently present, either directly or indirectly, in the caregiver's everyday life and affects their overall quality of life. According to the current research, when it comes to providing care and the associated burden, evidence suggests that prolonged caregiving can significantly alter the caregiver's normal way of life and lead to heightened levels of anxiety, fatigue, and physical and psychological exhaustion [12, 13]. However, this does not always happen, as other studies demonstrate that long-term care does not change the low burden levels in caregivers who care for their elderly family members [1].

As evidenced in the focus groups, at IIP some strategies can contribute to reducing caregiver burden, such as days off the system, caregiver pool, caregiver rest, financial support, loan of support products, elimination of barriers to home architectural plans, which, when properly implemented, contribute to reducing overload, with a consequent impact on improving the caregiver's quality of life [5, 14].

The IIP and the other rights involved in the informal caregiver status and the creation of the support offices created expectations in professionals and caregivers. Managing these expectations is not an easy task, mainly because, it is a developing process whose final results are not yet consolidated. Thus, it should be highlighted the assumptions regarding the resilience of the teams involved in a community intervention project, that it is essential to enhance the already existing evidence among the caregivers and also to face and overcome adversities and, together with the guardianship, aim at achieving more and better conditions for both professionals, caregivers and the people being cared for [15].

The professionals participating in this study highlighted some aspects to improve, both in the intervention program and its operationalization, and in the provision of conditions that can contribute to a better quality of life and less burden on the caregiver. However, they also highlighted the importance of being heard, to assess what is good and what is less good, intending to improve the entire process. All intervention projects must be subject to evaluation [16].

The online survey conducted with professionals provides data that ensures the content validation of the IIP. The results obtained corroborate the option for items defined based on the literature, with most items being rated as "Excellent" due to their relevance (45 out of 49) and their formulation (47 out of 49).

In this study, four focus groups were carried out with social and health professionals from Local Offices based in ARA municipalities. However, the fact that the study does not cover all professionals from the Support Offices installed at ARA, of which there are 19, could be seen as a limitation. The fact that the four focus groups were all from the same island could also be seen as a limitation of the study. However, this concern about the limitations of the study was taken into account and the researchers considered that these limitations were addressed. The four focus groups were chosen according to their size, size of the municipality and resident population, in order to reach larger and smaller focus groups, with the aim of enhancing their representativeness.

Conclusions

After analyzing the results obtained in the investigation, it was possible to conclude that the professionals who apply the IIP at ARA consider it as an added value for the informal caregiver and the person being cared for, not only due to the interdisciplinarity of its application but also due to the scope of its content. However, in its implementation, some constraints need to be improved, such as the lack of resources, both human and material, as well as the lack of responses to the real needs of informal caregivers and people being cared for, needs that have been legislated since 2019.

By analyzing the data collected from the online survey distributed among health and social professionals, it was determined that most users agreed with the included items in the IIP. The items with poor agreement were excluded and those with reasonable agreement were modified.

With the results of this study, the necessary changes were made to ensure the clinical validity of the IIP (Appendix) for the family caregiver so that it can be implemented in different contexts. On the other hand, it is also intended to be a support tool in the process and outcome indicators for monitoring the caregiver's evolution in supporting the person being cared for.

Abbreviations

ARA	Autonomous Region of the Azores
I-CVI	Item Content Validity Index
IIP	Interdisciplinary Intervention Plan

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

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Authors' contributions

VB was responsible for the research, analysis, interpretation and writing of the article. AR and CF were responsible for guiding the study. JA contributed with its collaboration in the statistical analysis of the study data. All authors read and approved the final manuscript.

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Data availability

The datasets generated and analyzed during the current study are not publicly available because the authors have declared to the ethics committees that the datasets are only on the authors' computer and have a password for author-only access but are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

All methods were carried out following relevant guidelines and regulations (Declaration of Helsinki).

This study was approved by the ethics committee of the Portuguese Society of Mental Health Nursing (Legal Opinion 04/PS/2021).

All participants consented to participate in the study and signed the "free and informed consent" document for the study together with the researcher.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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