



THE ROLE OF INFORMAL CAREGIVERS IN IMPROVING THE PHYSICAL, MENTAL HEALTH AND QUALITY OF LIFE OF ELDERLY WITH HYPERTENSION: LITERATURE REVIEW

Gesit Wira Mustapa¹, Tantut Susanto^{2*}, Nurfika Asmaningrum³

¹Post graduate Nursing Program Faculty of Nursing, University of Jember, Indonesia

² Department Community, Family and Geriatric Nursing, Faculty of Nursing,
University of Jember, Indonesia

³Faculty of Nursing, University of Jember, Indonesia

*Corresponding: Professor Tantut Susanto, MN, RN, PHN, Ph.D
Department Community, Family & Geriatric Nursing
Faculty of Nursing, University of Jember
Jl. Kalimantan 37 Jember, East Java, Indonesia 68121
Office Phone and Fax +62331324050
Email: tantut_s.psik@unej.ac.id

ABSTRACT

Background: Aging in old age is a process in which every human being will experience a setback both functional and body structure. Hypertension is a non-communicable disease with the greatest risk of mortality that requires continuous care. This condition has consequences for support for the elderly. One of these assistance and support is support from family or other people as caregivers. Caregivers can also be understood as individuals who can be family, friends, or who have other relationships where they provide physical, practical, and emotional care and support for other individuals who are called informal caregivers. However, the literature discussing this condition is still limited. This study aims to provide an overview of the role of informal caregivers among those with hypertension in maintaining physical and mental health and maintaining quality of life. **Methods:** The design used in this study is a literature review which is a comprehensive summary of several research studies that are determined based on a particular theme. The data used in this study is secondary data obtained in the form of articles in reputable national and international journals with predetermined themes. Database search in the form of Google Scholar, PubMed, Scopus. The keywords in this literature review are adjusted to the keywords that have been determined, namely "Informal Caregiver, physical and mental health, quality of life, elderly with hypertension". Searches are limited to 2018-2023 which can be accessed free full text.

Result: The results of the study are that there is a role for informal caregivers in improving the physical and mental health and quality of life of elderly people with hypertension. **Conclusion:** The conclusion of this study is that support and assistance from informal caregivers are needed in fulfilling the daily needs of elderly people with hypertension to improve the physical and mental health and quality of life of elderly people with hypertension.

Keywords: Informal Caregiver, physical and mental health, quality of life, elderly, hypertension

INTRODUCTION

Elderly or commonly called the elderly is someone aged 60 years and over.

Age classification of someone who has faced the final phase of life. The elderly in



general have gone through a life process called the Aging Process (WHO, 2020).

The elderly are inseparable from various diseases that attack old age such as hypertension. According to data from the World Health Organization in 2014 there are approximately 600 million people suffering from hypertension worldwide. The highest prevalence of hypertension occurs in African countries, which is 30%. The lowest prevalence of hypertension is in the Americas at 18%. In general, the prevalence of female sex has a higher risk of developing hypertension than male sex (WHO, 2021).

Hypertension is still a very serious problem (Fernalia, 2019). Hypertension is one of the causes of death in the world or the equivalent of 40 million deaths each year. Hypertension is also the main cause of cardiovascular disease which is known to be the number 1 cause of death in Indonesia and even 1 in 10 causes of death in the world (Agustin et al., 2019).

If hypertension occurs for a long time, it will increase the risk of stroke, heart attack and chronic kidney failure, even in severe hypertension it can cause hypertensive encephalopathy, decreased consciousness and even coma. If this is not addressed immediately, it can affect the overall health condition of the elderly (Prabasari et al., 2017).

The process of population aging greatly impacts various aspects of life, social, economic and health. Therefore, with increasing age, the function of the body's organs decreases due to natural factors and disease. Most of the problems faced by the elderly are a decline in organ function and metabolic disorders (Dewi et al., 2021). So that population aging has consequences for support for the elderly. Decreased body function in the elderly can inhibit the activities of the elderly and the role of the family plays an important role as (caregiver) providing care, attention, and looking after the elderly. Many of the elderly families pay little attention to the

health of the elderly so that many elderly suffer from hypertension, diabetes, stroke and others. this can exacerbate the condition of the elderly.

One of the help and support from other people is support from the closest relatives, namely family. The role of the family in question is what is the role of the family as a caregiver, in caring for family members who experience health problems or illnesses that require help from other people in doing things in everyday life. The role and also the support provided by the family is a form of action that involves the family as a psychosocial support for the patient. As we widely know that the family is the smallest unit in society and is the closest person to the patient who is able to become a caregiver (providing care at home) for the patient.

Caregivers can also be understood as individuals who can be family, friends, or who have other relationships where they provide physical, practical, and emotional care and support for other individuals (Marnie, L., 2014).

There are two types of caregivers, namely formal caregivers and informal caregivers (Gitasari & Savira, 2015). Formal caregivers are individuals who receive income for all the tasks they perform as caregivers. We can find formal caregivers in various places, one of which is they work in an agency, which can be hospitals, nursing homes, and others. Meanwhile, informal caregivers are caregivers where they provide assistance to other people who have personal closeness with themselves and these informal caregivers generally do not receive income for what they do. (Sheets & Mahoney-Gleason, 2010). For example individuals who have family relationships and others.

Informal caregivers experience higher levels of emotional distress, sadness, and work duration than formal caregivers (Diniz et al., 2018). This informal caregiver is the family of the elderly themselves, it can be children, grandchildren, in-laws and



others. This informal caregiver can also be called a family caregiver (Setiyoko & Nurchayati, 2021). Being a family caregiver for the elderly is not easy, there are various problems that arise including objective care problems, namely practical problems due to care such as cost problems when carrying out care, reduced inputs, lifestyle restrictions, problems in family relationships, and negative impacts on family caregivers (Setiyoko & Nurchayati, 2021). Caregivers also experience demands in meeting the needs of the elderly in terms of nutrition, rest, elimination (such as urination and defecation) and also hygiene (Prabasari et al., 2017).

The success of the care provided is greatly influenced by the role of the family as the closest environment for the client. The family acts as an informal caregiver for sick family members (Osundina et al., 2017). The readiness of the family to take on the role of caregiver is related to the extent of understanding they have about the illness of the family member they care for (Aan, 2017). Most caregivers have demands in the form of time and energy with high physical, emotional, social, and financial demands (Osundina et al., 2017). Especially with the condition of caregivers who also experience health problems. Besides having to care for family members and carry out other tasks in the family, caregivers also have to take care of their own health. This can lead to a feeling of burden for caregivers in carrying out their roles.

METHODS

The research design used is the Literature review method. The use of this method is related informal caregivers in improving physical and mental health and quality of life for elderly people with hypertension. Literature review (literature review) is research conducted by collecting a number of books, magazines related to the problem and research objectives

Search Results and Study Selection
Literature search and study selection used the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) strategy. First, the authors searched for literature in various databases such as Google Scholar, PubMed and Scopus with predetermined keywords, namely Informal Caregiver, physical and mental health, quality of life, elderly with hypertension found a total of 341 journals. Then the overall results of recorded research journals are filtered based on the relevance of the title and to exclude duplication, at this stage as many as 20 journals are recorded. Furthermore, research journals that are considered to have relevant titles are reviewed based on abstracts. From filtration based on abstract reviews and full text, 15 journals were recorded which will then be filtered based on full text. From the previous total of 15 journals, during the quality review stage, 15 journals were obtained, while the rest were excluded because they did not meet the inclusion criteria. Then the journals that have been filtered and meet the inclusion criteria will be filtered again to determine the quality of the journal. Journals that have been assessed for quality will then be analyzed.

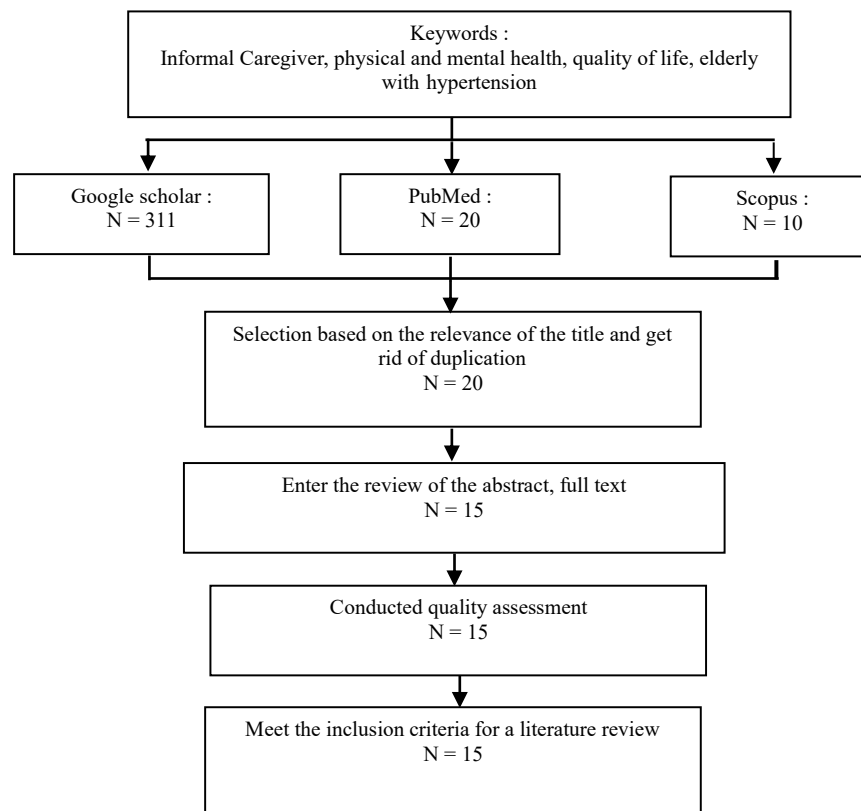


Figure 1. Prisma Diagram

Article selection criteria are based on inclusion criteria based on PICO analysis (population, intervention, comparison, outcomes), with the provisions P: Population is elderly patients with hypertension I: Intervention is an intervention by providing assistance to elderly people who suffer from hypertension in the form of informal caregivers. C: Comparison is comparing how the physical and mental health and quality of life of elderly people with hypertension who receive assistance from informal caregivers and those who do not receive assistance O: Outcomes are results or the effect of the intervention is the role of the informal caregiver in improving the physical and mental health and quality of life of elderly people with hypertension. Inclusion criteria in the literature search included articles reviewed which were research articles in international journals, published at least in the last 5 years,

available in full text. The exclusion criteria were articles which were the result of a literature review. Appropriate literature was then selected based on topics related to informal caregivers in improving the physical and mental health and quality of life of elderly people with hypertension.

RESULTS

The selected articles are summarized and presented in table 1. Based on the results of a review conducted of the 15 articles, they are explained in the table attached below. The result is that the role of the informal caregiver is very important in improving the physical and mental health and quality of life of elderly people with hypertension.

DISCUSSION

Based on studies that have been found in elderly people who suffer from hypertension, it is found that there is an



important role for informal caregivers in improving the physical and mental health and quality of life of the elderly.

This research is in line with Pristhalia Vernanda Gunawan's research in 2022 which states that the role of informal caregivers in overcoming the vulnerability of the elderly can be done through the role of caregiver and social support. The role of the family in providing care is carried out by providing physical care, especially for the activities of daily living for the elderly, social care for the elderly in carrying out their social functions, emotional care especially for the poor psychological condition of the elderly, and care to ensure the quality of treatment and health for the elderly.

The role of the family in providing social support is reflected in the provision of informational support related to health and other information that supports the welfare of the elderly, instrumental support, especially in accessing services to improve welfare for the elderly, emotional support in creating a comfortable atmosphere for the elderly, and reward or assessment support to build elderly confidence in carrying out their lives (Families in Addressing Elderly Vulnerabilities et al., n.d.)

This research is also in line with previous research from Setyoadi, 2013 that the quality of life of the elderly who are respondents includes a high quality of life due to the support of the role of the family, environment and elderly cadres as informal caregivers who always try to provide positive support and assistance to the elderly so that they can improve the quality of life elderly significantly.

Informal caregivers have a major influence on the health status of the elderly so their role needs to be optimized (Mona Meylinda Sari, 2014). Based on this, the team needs to empower elderly caregivers with hypertension so that they can maximize monitoring of hypertension sufferers by involving a family member as

the person in charge so that hypertension sufferers can be monitored (A'yun & Darmawanti, 2022).

CONCLUSION

This literature study illustrates that Informal caregivers have an important role in improving the physical and mental health and quality of life of elderly people with hypertension. Informal caregivers have a major influence on the health status of the elderly, so their role needs to be optimized. This role can be optimized by providing training to informal caregivers in providing care for the elderly, especially those with hypertension as an effort to improve physical and mental health and quality of life for the elderly.

REFERENCES

- Aan, A. (2017). Psychoeducation To Reduce The Burden On Families Who Become Caregivers Of Stroke Sufferers. *Psychoeducation To Reduce The Burden On Families Who Become Caregivers Of Stroke Sufferers*.
<https://lontar.ui.ac.id/detail?id=20446081&location=lokal>
- Adejoh, SO, Boele, F., Akeju, D., Dandadzi, A., Nabirye, E., Namisango, E., Namukwaya, E., Ebenso, B., Nkhoma, K., & Allsop, MJ (2021). The role, impact, and support of informal caregivers in the delivery of palliative care for patients with advanced cancer: A multi-country qualitative study. *Palliative Medicine*, 35(3), 552–562.
<https://doi.org/10.1177/0269216320974925>
- Agustin, WR, Rosalina, S., Ardiani, ND, & Safitri, W. (2019). The Effect of Finger Holding Relaxation Therapy and Deep Breathing on Lowering Blood Pressure in Hypertension Sufferers in the Work Area of the



- Kartasura Health Center. Kusuma Husada Health Journal, 108–114. <https://doi.org/10.34035/jk.v10i1.337>
- Akgun-Citak, E., Attepe-Ozden, S., Vaskelyte, A., van Bruchem-Visser, RL, Pompili, S., Kav, S., Acar, S., Aksoydan, E., Altintas, A., Aytar, A., Baskici, C., Blazeviciene, A., Scarpa, AR, Kiziltan, G., & Mattace-Raso, FUS (2020). Challenges and needs of informal caregivers in elderly care: Qualitative research in four European countries, the TRACE project. *Archives of Gerontology and Geriatrics*, 87, 103971. <https://doi.org/https://doi.org/10.1016/j.archger.2019.103971>
- Alifudin, MR, & Ediati, A. (2019). Experience of Becoming a Caregiver: A Descriptive Phenomenological Study on Wives of Stroke Sufferers. *EMPATI Journal*, 8(1), 111–116. <https://doi.org/10.14710/empati.2019.23583>
- Amer Nordin, A., Mohd Hairi, F., Choo, WY, & Hairi, NN (2019). Care Recipient Multimorbidity and Health Impacts on Informal Caregivers: A Systematic Review. *Gerontologist*, 59(5), e611–e628. <https://doi.org/10.1093/geront/gny072>
- Ardiani, H., Lismayanti, L., & Rosnawaty, R. (2019). Factors Associated with Quality of Life for Elderly in Mугarsari Village, Tamansari District, Tasikmalaya City in 2014. *Healthcare Nursing Journal*, 1(1)
- Ariyanto, A., Puspitasari, N., & Utami, DN (2020). PHYSICAL ACTIVITY ON QUALITY OF LIFE IN ELDERLY Physical Activity To Quality Of Life In The Elderly. *Al-Irsyad Journal of Health*, XIII(2), 145–151.
- Bom, J., Bakx, P., Schut, F., & Van Suciati, et al (2023)
- Doorslaer, E. (2019). The Impact of Informal Caregiving for Older Adults on the Health of Various Types of Caregivers: A Systematic Review. *Gerontologist*, 59(5), e629–e642. <https://doi.org/10.1093/geront/gny137>
- Cai, Y., Simons, A., Toland, S., Zhang, J., & Zheng, K. (2021). Informal caregivers' quality of life and management strategies following the transformation of their cancer caregiving role: A qualitative systematic review. *International Journal of Nursing Sciences*, 8(2), 227–236. <https://doi.org/10.1016/j.ijnss.2021.03.006>
- Dewi, ER, Falentina Tarigan, E., Azizah, N., Tambun, M., Septriyana, T., & Nancy Sinaga, W. (2021). Implementation of Elderly Exercise to Improve the Quality of Life of the Elderly. *Proceedings of the National Conference on Community Service and Corporate Social Responsibility (PKM-CSR)*, 4, 440–444. <https://doi.org/10.37695/pkmcscr.v4i0.1208>
- Diniz, MAA, Melo, BR de S., Neri, KH, Casemiro, FG, Figueiredo, LC, Gaioli, CCL de O., & Grato, ACM (2018). Comparative study between formal and informal caregivers of older adults. *Ciencia & saude coletiva*, 23(11), 3789–3798. <https://doi.org/10.1590/1413-812320182311.16932016>
- Fernalia, Priyanti W, Effendi S, AD (2019). The Effect of Deep Breathing Relaxation on the Headache Scale in Hypertension Patients in the Working Area of the Sawah Lebar Public Health Center, Bengkulu City. *Manuju: Malahayati Nursing Journal*, 1, 25–34.



- Giraldo-Rodríguez, L., Guevara-Jaramillo, N., Agudelo-Botero, M., Mino-León, D., & López-Ortega, M. (2019). Qualitative exploration of the experiences of informal care givers for dependent older adults in Mexico City. *Aging and Society*, 39(11), 2377–2396.
<https://doi.org/10.1017/S0144686X18000478>
- Gitasari, N., & Savira, SI (2015). Family Caregiver Experiences of People with Schizophrenia Novia Gitasari Siti Ina Savira Abstract. *Character*, 3(2), 1–8.
- Janson, P., Willeke, K., Zaibert, L., Budnick, A., Berghöfer, A., Kittel-Schneider, S., Heuschmann, PU, Zapf, A., Wildner, M., Stupp, C., & Keil, T. (2022). Mortality, Morbidity and Health-Related Outcomes in Informal Caregivers Compared to Non-Caregivers: A Systematic Review. *International Journal of Environmental Research and Public Health*, 19(10).
<https://doi.org/10.3390/ijerph19105864>
- Khotimah, H. (2018). Relationship Between Family Support and Caregiver Burden in Family Caregivers of Stroke Patients. 86–106.
- Khoirunisa, S. (2022). The relationship between physical activity and the quality of life of the elderly at Matahari Posyandu in the working area of the Mejobo Health Center, Kudus Regency.
- Luthfa, I. (2018). The Role of the Family Caring for the Elderly Post Stroke Family Role to Care Post Stroke Elderly. *Proceedings of Unissula Nursing Conference*, 1(1), 62–69.
- Mahmood, A., Kim, H., Kedia, S., & Dillon, P. (2022). Wearable Activity Tracker Use and Physical Activity Among Informal Caregivers in the United States: Quantitative Study. *JMIR MHealth and UHealth*, 10(11), 1–14. <https://doi.org/10.2196/40391>
- Marnie, L., & K. -K. et al. (2014). Chronic illness: impact and intervention.
- Masriani Daulay, N., S, S., & Febriany S, N. (2014). Family Experience as a Caregiver in Caring for Stroke Patients at Home. *Padjadjaran Journal of Nursing*, v2(n3), 161–170. <https://doi.org/10.24198/jkp.v2n3.4>
- Mathison, S. (2023). Physical Health Outcomes. *Encyclopedia of Evaluation*, 196(Ssphe 2018), 218–223.
- Morris, LJ and R. (2012). Experiences of adult stroke survivors and their parent carers: a qualitative study. *Experiences of Adult Stroke Survivors and Their Parent Carers: A Qualitative Study*, 27(3).
<https://doi.org/10.1177/0269215512455532>
- Niu, S., Ding, S., Wu, S., Ma, J., & Shi, Y. (2023). Correlations between caregiver competence, burden and health-related quality of life among Chinese family caregivers of elderly adults with disabilities: a cross-sectional study using structural equations analysis. *BMJ Open*, 13(2), 1–11.
<https://doi.org/10.1136/bmjopen-2022-067296>
- Osundina, A., Fatoye, F., Akanni, O., Omoreagba, J., Akinsulore, A., & Oloniniyi, I. (2017). Burden and coping styles among caregivers of patients with major mental disorders and hypertension attending a Nigerian



- tertiary hospital. *Indian Journal of Social Psychiatry*, 33(3), 189. <https://doi.org/10.4103/0971-9962.214603>
- Prabasari, NA, Juwita, L., & Maryuti, IA (2017). Journal of Nurses LENTERA, Vol. 5, No. 1, March 2017 Family Experience in Caring for the Elderly at Home (PHENOMENOLOGICAL STUDY). *Journal of Lantern Nurses*, 5(1), 56–68.
- Sacco, LB, König, S., Westerlund, H., & Platts, LG (2022). Informal Caregiving and Quality of Life Among Older Adults: Prospective Analyzes from the Swedish Longitudinal Occupational Survey of Health (SLOSH). *Social Indicators Research*, 160(2–3), 845–866. <https://doi.org/10.1007/s11205-020-02473-x>
- Seangpraw, K., & Ong-Artborirak, P. (2020). Knowledge and Behaviors Toward Health Care for Elderly Patients with Hypertension, and Quality of Life Among Informal Caregivers in Northern Thailand. *Journal of Multidisciplinary Healthcare*, 13, 1771–1780. <https://doi.org/10.2147/JMDH.S284886>
- Setiyoko, LO, & Nurchayati. (2021). Gratitude to Family Caregivers Caring for the Elderly. *Character: Journal of Psychological Research*, 8(3), 151–164.
- Sheets, CJ, & Mahoney-Gleason, H. (2010). Caregiver support in the Veterans Health Administration: Caring for those who care. *Generations*, 34, 92–98.
- Swartz, K., & Collins, LG (2019). Caregiver care. *American Family Physician*, 99(11), 699–706.
- WHO. (2020). World Health Organization.
- WHO. (2021). hypertension. <https://www.who.int/news-room/fact-sheets/detail/hypertension>
- Wong, ELY, Xu, RH, & Cheung, AWL (2020). Health-related quality of life in elderly people with hypertension and the estimation of minimally important difference using the EQ-5D-5L in Hong Kong SAR, China. *The European Journal of Health Economics : HEPAC : Health Economics in Prevention and Care*, 21(6), 869–879. <https://doi.org/10.1007/s10198-020-01178-9>



Table 1. Results of Scientific Article Reviews

ID	Writer	Journal Title	objective	Population and sample	Research methods	Results and Discussion
J1	Adejoh et al., 2021	The role, impact, and support of informal caregivers in the delivery of palliative care for patients with advanced cancer: A multi-country qualitative study	Research conducted for role, impact, and support of informal caregivers of patients with advanced cancer when interacting with palliative care services	Informal caregiver interview transcripts including participants aged over 18 recruited from palliative care services in all participating countries	Interview	Research result Informal caregiver roles were diverse, with participants reporting caring for mostly medical, the physical, financial, and emotional needs of care recipients, often in the face of sacrifices related to their own work, finances, and health and social lives.
J2	Akgun-Citak et al., 2020	Challenges and needs of informal caregivers in elderly care: Qualitative research in four European countries, the TRACE project	To explore the experiences and needs of informal caregivers in four countries	Research sample 72	Qualitative method	An important and compelling result of this study was that difficulty managing caregivers' own lives, and coping with emotions was common in the four countries. Identifying the challenges and needs of informal caregivers enables health professionals to develop care strategies and plan focused interventions to support and help reduce the burden of caring for older adults with chronic illnesses
J3	Amer Nordin et al., 2019	Care Recipient Multimorbidity and Health Impacts on Informal Caregivers: A Systematic Review	to describe the health outcomes of caregiving and the resulting association with multimorbidity of care recipients for older adult informal caregivers	From a total of 2,101 titles, 230 abstracts were filtered, and 19 articles were included. Quality assessment is carried out with the application of the Newcastle-Ottawa-Scale	Literature review	This narrative review found that caring for older adults with multimorbidity impacts caregivers, although the overall evidence is not conclusive. Although care-related outcomes were most frequently assessed among caregivers, particularly subjective burden, the findings suggest that it is worth examining other outcomes to enrich the evidence.
J4	Bom et al., 2019	The Impact of Informal Caregiving for Older Adults on the Health of	This study provides an overview of all studies aimed at estimating the causal effects of	A systematic search yielded a total of 1,331 articles	A structured literature search, following PRISMA guidelines, was conducted	The findings emphasize the need for targeted interventions aimed at reducing the negative impacts of parenting among different



ID	Writer	Journal Title	objective	Population and sample	Research methods	Results and Discussion
		Various Types of Caregivers: A Systematic Review	informal caregiving on the health of various subgroups of caregivers		across 4 databases. Three independent investigators assessed studies for eligibility based on predetermined criteria. The results of the studies included in the review are summarized in the form of predetermined extractions and synthesized narratively.	subgroups. Because the strength and presence of care effects differ between subgroups of caregivers, policy makers should specifically target caregivers who experience the greatest health impacts from informal care.
J5	Cai et al., 2021	Informal caregivers' quality of life and management strategies following the transformation of their cancer caregiving role: A qualitative systematic review	This study aims to analyze how cancer caregiving influences the quality of life of informal caregivers and their management strategies for their role as cancer caregivers	The search protocol was performed using the EBSCO, Pubmed, CINAHL, Ovid, ProQuest, Cochrane, and Google Scholar databases.	Literature review	Caring for cancer has a significant effect on the QoL of informal caregivers and informal caregivers develop various coping strategies to deal with difficulties that occur while balancing the relationship between their own lives and care. However, professional and policy support remains inadequate for informal caregivers necessitating the need for improvement in terms of health care professionals and policy makers
J6	Diniz et al., 2018	Comparative study between formal and informal caregivers of older adults	This study aims to compare the health conditions and burden of elderly formal and informal caregivers.	Research sample 50	Cross-sectional study	The results reveal important differences and attention is needed to plan interventions to improve the health and working conditions of these people
J7	Giraldo-Rodríguez et al., 2019	Qualitative exploration of the experiences of informal care givers for dependent older adults in Mexico City	This study aims to investigate the experiences of dependent informal caregivers of older adults	Research sample 48	Cross-sectional study	exhibit caring experiences that are diverse and complex, and profoundly impact the lives of caregivers in terms of emotional burden, declining health and adverse living conditions due to economic deprivation.



ID	Writer	Journal Title	objective	Population and sample	Research methods	Results and Discussion
						They also highlighted key aspects such as the need to improve communication between care givers and health workers, the need for training on special care needs and the opportunity costs incurred. This information can serve as a basis for generating supporting strategies that can be integrated into in-house programs
J8	Janson et al., 2022	Mortality, Morbidity and Health-Related Outcomes in Informal Caregivers Compared to Non-Caregivers: A Systematic Review	This study aims to summarize estimates of mortality, incidence, and prevalence of chronic disease in informal caregivers compared to non-caregivers	Our systematic search searched major healthcare databases (CINAHL, MEDLINE and Web of Science) for relevant studies published in the last 10 years	Literature review	that informal care can be associated with several mental and physical disorders. However, these results need to be interpreted with caution, because cross-sectional studies cannot determine temporal relationships. The lower mortality rate compared to non-caregivers may be due to the healthy caregiver bias in this longitudinal observational study
J9	Mahmood et al., 2022	Wearable Activity Tracker Use and Physical Activity Among Informal Caregivers in the United States: Quantitative Study	This study aims to examine the relationship between use of wearables and physical activity level (PA) among informal caregivers	Research sample 1273	We used data from the National Cancer Institute's Health Information National Trends Survey 5	The results show a positive association between use of wearable devices and rates of PA among informal caregivers in the United States. Hence the efforts to incorporate wearable technology into the development of health promotion programs or interventions for informal caregivers have the potential to improve their health and well-being
J10	Mathison, 2023	The Impact of Informal Care on Elderly People's Physical	aims to investigate the effects of informal care on	Research sample 839	Cross-sectional study	The results of the study suggest that informal care can improve the physical health of older



ID	Writer	Journal Title	objective	Population and sample	Research methods	Results and Discussion
		Health Outcomes	the physical health of the elderly			people by driving their blood biomarkers to a lower risk level
J11	Niu et al., 2023	Correlations between caregiver competence, burden and health-related quality of life among Chinese family caregivers of elderly adults with disabilities: a cross-sectional study using structural equations analysis	To examine the relationship between caregiver competence and health-related quality of life (HRQoL) among caregivers of elderly disabled adult families, and to evaluate the role of caregiver burden as a potential mediator of that relationship	Research sample 135	Cross-sectional study	The HRQoL of family caregivers is closely related to the caregiver's difficulties and burdens. Early identification and targeted action are needed to reduce burdens and problems in caregiving
J12	Sacco et al., 2022	Informal Caregiving and Quality of Life of Life Among Older Adults: Prospective Analyzes from the Swedish Longitudinal Occupational Survey of Health (SLOSH)	This research was conducted to find out The relationship varies according to the intensity and burden of care	Research sample 5076	analysis of change to examine six-wave (2008–2018) panel data from the Swedish Longitudinal Occupational Health Survey	The results showed discontinuation of treatment led to improvement despite persistently lowering of the overall level of quality of life. Measures to reduce the burden of care or time spent providing informal care are likely to improve the quality of life of the elderly.
J13	Seangpraw & Ong-Artborirak, 2020	Knowledge and Behaviors Toward Health Care for Elderly Patients with Hypertension, and Quality of Life Among Informal Caregivers in Northern Thailand	This study was to determine the relationship between knowledge and behavior towards health services in elderly patients with hypertension, and the quality of life of informal caregivers.	Research sample 402	Cross-sectional study	Knowledge and behavior towards health services in hypertensive patients affect the quality of life of informal caregivers. Caregivers in rural communities should be encouraged to educate about the stages of hypertension, preparation for caring for the elderly with high blood pressure, and effective behavioral treatment for patients, in order to improve the quality of



ID	Writer	Journal Title	objective	Population and sample	Research methods	Results and Discussion
						life for both caregivers and patients. In addition, health care providers should have clear guidelines for the development of health care systems in order to increase the potential for care and quality of life among informal caregivers
J14	Swartz & Collins, 2019	Caregiver Care	This research was conducted to find out that caring for people is associated with several benefits.	Informal caregiver interview transcript	Interview	Carers should be directed to appropriate resources for support, including national care organizations, local aged care agencies, websites, and respite care. Psychoeducation, skills training, and therapeutic counseling interventions for caregivers have shown little to moderate success with reducing caregiver burden and improving caregiver quality of life.
J15	Wong et al., 2020	Health-related quality of life in elderly people with hypertension and the estimation of minimally important difference using EQ-5D-5L in Hong Kong SAR, China	This study examines health-related quality of life (HRQoL) in elderly patients with hypertension in Hong Kong (HK) using the EQ-5D-5L and estimates the minimally important difference (MID) of the EQ-5D-5L index score.	Research sample 3351	Cross-sectional study	HRQoL and MID estimation of EQ-5D for elderly people with hypertension has been reported, which provides valuable information to assist healthcare professionals in making clinical decisions in the treatment of hypertension.