

The Effects And The Influence Of A Geriatric Nursing Practitioner On The Quality And Effectiveness Of The Treatment Of Patients In Home Healthcare: A Systematic Literature Review

Firas Atef Abu Hussein*

*Faculty of Graduate studies, Arab American University, 13 Zababdeh, P.O. box 240 , Jenin Palastine
Author Email :- firas.alzain.1986@gmail.com

***Corresponding Author:** Firas Atef Abu Hussein

Abstract

Background: Home healthcare is critical in modern healthcare systems because people live longer and want to age with dignity. Quality home health care refers to secure, safe, and effective services, involving and empowering patients and enhancing effective utilization of resources. This literature review evaluates the effects and the influence of geriatric nursing practitioners (GNPs) on the quality and effectiveness of the treatment of patients in home health care and satisfaction.

Methods: The literature search was conducted on PubMed, Google Scholar, and JSTOR. The review included 10 articles from the final 15. The articles were reviewed using thematic analysis to identify the common themes.

Results: The major themes derived from the selected articles are that nursing professionals can enhance the quality of home healthcare by using technology to provide care, comprehensive geriatric assessment, evidence-based practice, and integrated care.

Conclusion: The included studies indicate that GNPs play a critical role in providing and enhancing the quality of home care.

Keywords: Home Healthcare, Geriatric Nurse Practitioner, Evidence-based practice and Integrated Care.

Tweetable Abstract

GNPs are instrumental in providing and enhancing the quality of home healthcare @ijn2022.

Keywords: Evidence-based practice; Geriatric Nurse Practitioner; Home Healthcare; Integrated Care; Literature Review

What is already known

- GNPs can enhance not only the quality but also the effectiveness of home care through the provision of care transition from hospital to home.
- Quality of care by GNPs is also enhanced through collaboration with primary home care providers
- The number of studies conducted in Israel to determine the role of geriatric nurses in increasing the effectiveness of home care is limited calling for a review of published studies globally.

What this paper adds

- This review will focus on studies conducted globally on the role of GNPs in enhancing the effectiveness of delivery of treatment using the home care model.
- This will inform policy implementation in Israel and other countries on the vital role of the GNPs in the delivery of healthcare using the home care model.

1. Background

Home health care is a component of healthcare in which healthcare professionals provide care services to individuals and families in their places of residence to maintain and restore health (O'Brien, 2021). Home healthcare is critical in modern healthcare systems because people live longer and want to age with dignity, have more chronic and complex conditions, and leave the hospital earlier (Baker et al., 2017). Quality home health care refers to secure, safe, and effective services, involving and empowering patients, and enhancing effective utilization of resources (Aase et al., 2021). Home health care is an effective alternative to inpatient care for elderly patients. This approach to health care effectively lowers mortality and rehospitalization rates, enhances patient satisfaction, and improves elderly patients' health outcomes (Pouw et al., 2018). A geriatrics nursing practitioner (GNP) has a crucial role in influencing the effectiveness and quality of home health care.

GNPs can influence the quality and effectiveness of home care by providing transitional care home visits to enable geriatric patients to transition from the hospital to the home setting (Mora et al., 2017). Also, the GNP can influence quality by providing care in collaboration with the patient's primary care provider (Ritchie & Leff, 2018). This collaboration will enhance the interdisciplinary care approach, which improves the quality of care, and reduces 30-day readmissions and preventable hospitalizations. Anthony (2017) indicates that the care coordination GNPs role is not isolated visits but also involves providing primary care, health education, chronic disease management, and referrals. GNPs can also influence the effectiveness and quality of home healthcare care by providing comprehensive home, environmental, psychological, functional, and physical assessments and providing and supervising care for older adults with diverse needs (Touhy & Jett, 2021). Exploring the role of GNPs is critical to explain their roles in multi-disciplinary teams, because GNP is an evolving advanced nursing practice, expand the current knowledge on GNPs, and GNPs contribute to patient and service outcomes. Therefore, GNPs have a critical role in enhancing the effectiveness and quality of home care.

The literature review will explore the influence of geriatric nursing practitioners on the quality and effectiveness of the treatment of patients in home health care globally. The literature review will search for studies globally because limited studies are focusing on Israel. The review will also discuss the implication of the results on the Israeli healthcare system and geriatric professionals.

2. Review Methods

This review aimed to find out the contribution of GNPs to the effectiveness and quality of home healthcare delivery. The current literature review used PubMed, Google Scholar, and JSTOR to conduct this PRISMA protocol by inserting the primary research question, "What is the quality of care for geriatric patients in home-based centres?" This result needed keying in the question using quotation marks. The purpose of quotation marks is to limit the number of articles available for selection to a reasonable number. The result was 3,186 articles. Then, the research criteria were made more specific by inputting articles published within the last five years. The record was then analysed and eliminated 1,754 articles about patients not in the geriatric age group. The exclusion criteria of this PRISMA needed analysis of patients greater than 50 years, and elimination of articles that assessed patients younger than 50 years, non-practitioner articles and articles more than 5 years, book reports, public health articles, book chapters, meta-analysis and systematic reviews and health policy articles. The inclusion criteria are articles that examined patients older than 60 years, nursing practitioner articles, and articles less than five years old since their publishment. The reports of studies included were 10 articles that answered the research question. The PRISMA diagram below indicates the outcomes of the literature search and the final included studies.

PRISMA diagram

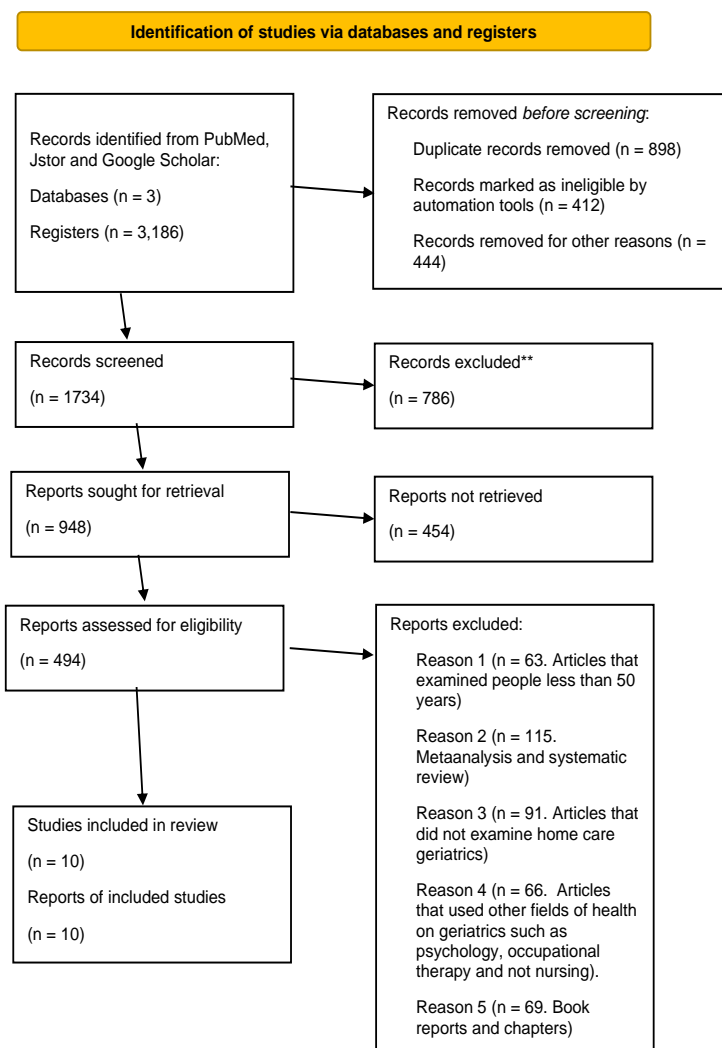


Figure 1: Prisma flow diagram Adapted from (Moher et al., 2009)

3.0 Results

The literature search identified 10 articles relevant to the research topic. This results section discusses the general findings and common themes from these 10 articles. These articles were published within the last five years in peer-reviewed articles. These articles include one review of reviews (Bertoncello et al., 2018), one consensus paper (Scotte et al., 2018), two systematic reviews and meta-analyses (Hshieh et al., 2018; Pu et al., 2019) and six systematic reviews (Garrard et al., 2020; Lauretani et al., 2020; Liljas et al., 2019; Panza et al., 2018; Santosaputri et al., 2018; Wagle et al., 2018). (Appendix A presents a table indicating the features of the included studies). These reviews analyzed primary studies conducted in different countries. The general findings from the selected articles are that geriatric patients in home healthcare require specialized treatment and have high utilization of healthcare services. Geriatric nursing practitioners have a significant role in enhancing this population's quality and effectiveness of care. The major themes derived from the selected articles are using technology to provide care, comprehensive geriatric assessment, evidence-based practice, and integrated care.

3.1 Using Technology to Provide Care

Bertoncello et al. (2018) argue that information and communication technologies effectively address crucial public health problems such as geriatric populations and rising chronic disease prevalence rates. For instance, GNPs can utilize telemedicine to provide care to geriatric patients in their homes. Telemedicine would enhance patient engagement, manage chronic conditions and enhance the quality of life. Technology can also trigger health behaviours. Pu et al. (2018)

also report those social robots can improve older adults' well-being. Social robots produce positive outcomes on quality of life, anxiety, patient engagement, agitation, stress reduction, and medication adherence. Based on this evidence, GNPs can use social robots to provide geriatric patient care.

3.2 Comprehensive Geriatric Assessment (CGA)

CGA is the multidimensional assessment and management of an elderly individual. CGA is a multidisciplinary diagnostic process that determines the pathological risk, prognosis, clinical profile, and personalized care plan. Garrard et al. (2019) found that CGA is acceptable and produces outcome benefits. Lauretani et al. (2020) posit that healthcare providers should use relevant and validated assessment tools to perform diagnostic evaluations and inform treatment. Similarly, Panza et al. (2017) argue that CGA improves the quality of life and reduces hospitalization of geriatric patients with complex conditions. Therefore, GNPs can influence the quality and effectiveness of treatment by implementing CGA.

3.4 Evidence-Based Practice (EBP)

Hshieh et al. (2018) promote the implementation of EBP in geriatric care. For instance, the study recommends the implementation of the Hospital Elder Life Program (HELP) after finding it effective in reducing delirium and fall incidences, preventing institutionalization, and decreasing the length of stay. HELP is a multi-component approach for preventing cognitive and functional decline in hospitalized elderly individuals. Its original objective was to maximize independence at discharge, enhance mental and physical functioning, and enhance the transition from hospital to home. The study also reports that HELP is growing as a model for enhancing the effectiveness and quality of care for the elderly population globally.

3.6 Integrated Care

Wagle et al. (2018) recommend implementing caregiver-based interventions to enhance medication safety for geriatric patients. Such interventions improve caregivers' medication knowledge. Scotte et al. (2018) recommend using multidisciplinary teams and a multi-professional approach to provide patient care. They enhance the management of all patients' health aspects and improve health and quality of life. The team's composition would vary according to the patient's needs. Santosaptri (2018) recommends the implementation of geriatrics-focused interventions. Using this evidence, a GNP can implement a geriatrics-focused intervention for their patients in home care settings. According to Liljas et al. (2019), integrated care reduces hospital admission rates and length of hospital stay and enhances patient outcomes.

4.0 Discussion

This literature review explores the effects and influence of geriatric nursing practitioners (GNP) on the quality and effectiveness of the treatment of patients in home health. The rationale for this study is that home healthcare has become a critical element of modern healthcare systems as people live longer with complex and chronic conditions but want to age with dignity. The included studies show that geriatric patients receiving home healthcare require specialized treatment and have high utilization of healthcare services. The literature also indicates that geriatric nursing practitioners have a significant role in enhancing this population's quality and effectiveness of care. The major themes derived from the selected articles are that nursing professionals can enhance the quality of home healthcare by using technology to provide care, comprehensive geriatric assessment, evidence-based practice, and integrated care.

Included studies showed that GNPs could enhance the quality and effectiveness of care by performing comprehensive geriatric assessment (CGA). Garrard et al. (2019) found that CGA produces positive outcomes. Similarly, Panza et al. (2017) report that CGA improves the quality of life and minimizes the risk of readmission of geriatric patients. GNPs require the use of relevant and validated assessment tools to assess patients. Results of such assessments are critical to informing treatment plans. Therefore, performing CGA is an effective approach that GNPs can use to enhance home healthcare quality and effectiveness. These studies have similar findings.

Literature shows that nursing professionals enhance patient care when they use technology. Pu et al. (2018) note that using social robots enhances older adults' well-being, enhances patient engagement, medication, and quality of life, and minimizes anxiety, agitation, and stress. Bertocello et al. (2018) indicate that healthcare technology addresses public health issues. For instance, GNPs can use telemedicine to provide healthcare services to geriatric patients in their homes. Therefore, GNPs influence the quality and effectiveness of treatment of patients in home health by utilizing health technology. These studies have similar findings.

GNPs can enhance the quality of care by providing integrated care. For instance, Santosaptri (2018) found that interventions implemented by geriatrics-trained staff can reduce hospitalizations among nursing home residents. Scotte

et al. (2018) propose using a multi-professional approach and multi-disciplinary teams in providing geriatric care as they improve health, quality of life, and other patients' health aspects. Wagle et al. (2018) argue that caregiver-based interventions improve geriatric patients' medication safety. The rationale for providing integrated care is that this care enhances patient outcomes and reduces hospitalization (Liljas et al., 2019). These studies have similar findings. Lastly, GNPs can enhance the quality and effectiveness of treating patients in home health by utilizing EBP in geriatric care. Hshieh et al. (2018) propose that geriatric providers use the Hospital Elder Life Program (HELP) to reduce hospital stays, reduce hospitalization, and prevent functional and cognitive decline.

4.1 Limitations

The strengths of this literature review are including recently published studies that provide recent evidence, it comprehensively examines both quantitative and qualitative studies on different aspects, and it includes meta-analyses of randomized controlled trials, which provide high-quality data. Its limitations are that most of the included studies are secondary studies, and they provide limited evidence due to including homogenous studies. Also, the systematic reviews include only 10 articles, limiting the research issue's exploration to a wider perspective.

5.0 Conclusions

This literature review explores the effects and influence of a Geriatric nursing practitioner on the quality and effectiveness of the treatment of patients in home health care and satisfaction. The literature indicates that GNPs significant influence the quality and effectiveness of treatment for patients. The literature indicates that GNPs enhance the quality and effectiveness of care through using technology to provide care, comprehensive geriatric assessment, evidence-based practice, and integrated care.

Health educators can use the literature review findings to train GNPs on the most effective care methods for geriatric patients receiving home care. These strategies focus on increasing the quality and effectiveness of home care to enhance patient outcomes and improve health outcomes.

The implications for practice are that GNP has a significant role in offering high-quality and effective home care. GNPs can implement the interventions identified in this literature review (comprehensive geriatric assessment, using medical technology, integrated care and evidence-based interventions) when providing home care to older adults to enhance their quality. For instance, GNPs should perform CGA to inform their care plans.

Policymakers should develop procedures specific to home healthcare for GNP. These policies will inform GNPs on the best practices for home care.

This literature review has focused on the general quality and effectiveness of care. Future research should investigate specific interventions for patients living with particular conditions such as dementia / Alzheimer's or cancer

Acknowledgements

My huge and great thanks to my parents, my wife, my brothers and children for writing this article and for the constant support and encouragement.... ELHAMDOLELLAH - God bless.

Conflict of interest

None

Funding sources

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

1. Aase, I., Ree, E., Johannessen, T., Strømme, T., Ullebust, B., Holen-Rabbersvik, E., . . . Wiig, S. (2021). Talking about quality: how 'quality' is conceptualized in nursing homes and homecare. *BMC Health Services Research*, 21(104).
2. Anthony, M. (2017). Nurse practitioners and home care. *Home Healthcare Now*, 35(5), 241-242.
3. Baker, J. J., Baker, R., & Dworkin, N. (2017). *Health care finance*. Jones & Bartlett Learning.

4. Bertoncello, C., Colucci, M., Baldovin, T., Buja, A., & Baldo, V. (2018). How does it work? Factors involved in telemedicine home-interventions effectiveness: A review of reviews. *PLoS One*, *13*(11), e0207332. <https://doi.org/10.1371/journal.pone.0207332>.
5. Garrard, J. W., Cox, N. J., Dodds, R. M., Roberts, H. C., & Sayer, A. A. (2020). Comprehensive geriatric assessment in primary care: a systematic review. *Ageing clinical and experimental research*, *32*(2), 197-205. <https://doi.org/10.1111/jgs.17365>.
6. Hshieh, T. T., Yang, T., Gartaganis, S. L., Yue, J., & Inouye, S. K. (2018). Hospital elder life program: systematic review and meta-analysis of effectiveness. *The American Journal of Geriatric Psychiatry*, *26*(10), 1015-1033. <https://doi.org/10.1016/j.jagp.2018.06.007>.
7. Lauretani, F., Ravazzoni, G., Roberti, M. F., Longobucco, Y., Adorni, E., Grossi, M., ... & Maggio, M. (2020). Clinical and ethical implications include the assessment and treatment of older individuals with COVID-19 multi-system disease. *Acta Bio Medica: Atenei Parmensis*, *91*(2), 150. <https://dx.doi.org/10.23750%2Fabm.v91i2.9629>.
8. Liljas, A. E., Brattström, F., Burström, B., Schön, P., & Agerholm, J. (2019). Impact of integrated care on patient-related outcomes among older people—a systematic review. *International Journal of Integrated Care*, *19*(3). <https://dx.doi.org/10.5334%2Fijic.4632>.
9. Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Plos Medicine*, *6*(7), e1000097. doi: 10.1371/journal.pmed.1000097
10. Mora, K., Dorrejo , X., Carreon, K., & Butt , S. (2017). Nurse practitioner-led transitional care interventions: An integrative review. *Journal of the American Association of Nurse Practitioners*, *29*(12), 773-790.
11. O'Brien, M. E. (2021). *Spirituality in nursing: Standing on holy ground*. Jones & Bartlett Learning.
12. Panza, F., Solfrizzi, V., Lozupone, M., Barulli, M. R., D'Urso, F., Stallone, R., ... & Logroscino, G. (2018). An old challenge with new promises: a systematic review on comprehensive geriatric assessment in long-term care facilities. *Rejuvenation Research*, *21*(1), 3-14. <https://doi.org/10.1089/rej.2017.1964>.
13. Pouw, M. A., Calf, A. H., Van Munster, B. C., ter Maaten, J. C., Smidt, N., & de Rooij, S. E. (2018). Hospital at-home care for older patients with cognitive impairment: a protocol for a randomised controlled feasibility trial. *BMJ Open*, *8*(3).
14. Pu, L., Moyle, W., Jones, C., & Todorovic, M. (2019). The effectiveness of social robots for older adults: a systematic review and meta-analysis of randomized controlled studies. *The Gerontologist*, *59*(1), e37-e51. <https://doi.org/10.1093/geront/gny046>.
15. Ritchie, C., & Leff, B. (2018). Population health and tailored medical care in the home: the roles of home-based primary care and home-based palliative care. *Journal of Pain and Symptom Management*, *55*(3), 1041-1046.
16. Santosaputri, E., Laver, K., & To, T. (2019). Efficacy of interventions led by staff with geriatrics expertise in reducing hospitalization in nursing home residents: a systematic review. *Australasian Journal on Ageing*, *38*(1), 5-14. <https://doi.org/10.1111/ajag.12593>.
17. Scotté, F., Bossi, P., Carola, E., Cudennec, T., Dielenseger, P., Gomes, F., ... & Strasser, F. (2018). Addressing the quality of life needs of older patients with cancer: a SIOG consensus paper and practical guide. *Annals of Oncology*, *29*(8), 1718-1726. <https://doi.org/10.1093/annonc/mdy228>.
18. Touhy, T. A., & Jett, K. (2021). *Ebersole and Hess' gerontological nursing & healthy ageing*. Elsevier Health Sciences.
19. Wagle, K. C., Skopelja, E. N., & Campbell, N. L. (2018). Caregiver-based interventions to optimize medication safety in vulnerable elderly adults: a systematic evidence-based review. *Journal of the American Geriatrics Society*, *66*(11), 2128-2135. <https://doi.org/10.1111/jgs.15556>.

Appendix A: Table of results

Authors and Year	Title	Design	Purpose	Level	Findings
Bertoncello, C., Colucci, M., Baldovin, T., Buja, A., & Baldo, V. (2018).	How does it work? Factors involved in telemedicine home-interventions effectiveness: A review of reviews	Review of reviews	To examine whether and how published reviews consider and discuss the influence on outcomes of diverse factors such as patient education and support, setting, the organizational model, intensity of intervention, patient engagement and the perspectives of patient, care givers and health practitioners.	III	Information and communication technologies effectively address crucial public health problems such as geriatric populations and rising chronic diseases prevalence rates. For instance, telemedicine would enhance patient engagement, manage chronic conditions and enhance the quality of life.
Garrard, J. W., Cox, N. J., Dodds, R.M., Roberts, H. C., & Sayer, A. A. (2020)	Comprehensive geriatric assessment in primary care: a systematic review	Systematic review	To appraise the evidence on comprehensive geriatric assessment implemented within the primary care practice.	II	Comprehensive geriatric assessment was acceptable and provides variable outcome benefits. Its benefits include improved medication adherence, cost effectiveness, and reduce hospital

					admission. It also indicates that primary care is the best setting for CGA to identify and support individuals with multiple conditions and frailty.
Hshieh, T. T., Yang, T., Gartaganis, S. L., Yue, J., & Inouye, S. K. (2018)	Hospital elder life program: systematic review and meta-analysis of effectiveness	Systematic review and meta-analysis	To summarize the current state of the evidence regarding the Hospital Elder Life Program (HELP) and determine its effectiveness and cost-savings.	III	HELP effectively reduces prevalence of delirium and rate of falls, which reduces length of hospital stay and prevents institutionalization. The program can serve as a reference standard model for improving quality and effectiveness of hospital care for geriatric adults.
Lauretani, F., Ravazzoni, G., Roberti, M. F., Longobucco, Y., Adorni, E., Grossi, M., ... & Maggio, M. (2020)	Clinical and ethical implications include the assessment and treatment of older individuals with COVID-19 multi-system disease	Systematic review	To address the different aspects of COVID-19 multi-system disease such as diagnostic evaluation, continuing with innovative classification of phases and proposing sequential adapted pharmacological treatment.	III	Healthcare providers should use relevant and validated assessment tools to perform diagnostic evaluations and inform treatment.
Liljas, A. E., Brattström, F., Burström, B., Schön, P., & Agerholm, J. (2019)	Impact of integrated care on patient-related outcomes among older people—a systematic review	Systematic review	To determine important patient-related outcomes of integrated care provided to older adults.	III	Integrated care reduces hospital admissions, length of stay, readmission rates and improves patient satisfaction. However, integrated care does not have any impact on mortality.
Panza, F., Solfrizzi, V., Lozupone, M., Barulli, M. R., D'Urso, F., Stallone, R., ... & Logroscino, G. (2018).	An old challenge with new promises: a systematic review on comprehensive geriatric assessment in long-term care facilities	Systematic Review	To review the current evidence on clinical research on the implementation of comprehensive geriatric assessment (CGA) programs in long-term care facilities and analysing the benefits derived from applying CGA-based tools.	III	In the long-term care facilities, CGA improves quality of care and reduces hospitalization rates. CGA also helps in developing rapid screening CGA-based tools to improve physicians' ability to identify and treat geriatric syndromes.
Pu, L., Moyle, W., Jones, C., & Todorovic, M. (2019)	The effectiveness of social robots for older adults: a systematic review and meta-analysis of randomized controlled studies	Systematic review and meta-analysis	To summarize the effectiveness of social robots on outcomes of older adults from randomized controlled trials.	I	Social robots can improve older adults' well-being.
Santosaputri, E., Laver, K., & To, T. (2019)	Efficacy of interventions led by staff with geriatrics expertise in reducing hospitalization in nursing home residents: a systematic review	Systematic review	To determine the effectiveness of interventions delivered by geriatrics-trained staff for nursing home residents in reducing hospitalization.	III	There was limited evidence that interventions implemented by geriatrics-trained staff reduces hospitalizations in nursing home residents.
Scotté, F., Bossi, P., Carola, E., Cudennec, T., Dielenseger, P., Gomes, F., ... & Strasser, F. (2018).	Addressing the quality of life needs of older patients with cancer: a SIOG consensus paper and practical guide	Consensus paper	To provide a summary of the current perspectives on key issues regarding the significance of addressing quality of life needs of older cancer patients and make recommendations and provide practical guidance.	V	Quality of life of the elderly patients should be significantly considered in patient care. It recommends that quality of life (QoL) assessments should be performed at baseline and repeated at regular intervals, performing QoL assessments is feasible as it enables detection of unknown geriatric problems leading to patient-appropriate interventions and treatment.
Wagle, K. C., Skopelja, E. N., & Campbell, N. L. (2018).	Caregiver-based interventions to optimize medication safety in vulnerable elderly adults: a systematic evidence-based review	Systematic review	To investigate the impact of caregiver-focused interventions to support medication safety in older adults with chronic conditions	III	Educational interventions improves caregivers' preparedness, confidence and efficacy and medication knowledge. Collaborative care improves quality of care outcomes and reduces hospitalization.