Prevalence of Behavioral and Psychological Symptoms in Bedridden Dementia Patients. A Study from Jeddah, Saudi Arabia

Mazen A. Basheikh[1], Ashraf M. Dhaiban[2], Adnan A. Badahdah[1], Ahmed T. Almalki[3], Waahaj A. Kattan[3], Hisham A. Alshite[3], Mohammed A. Alqarni[3], Suleiman A. Alsuleimani[3], Jamal A. Thaiban[4], Abdulrahman O. Batarfi[5], Mohammed A. Basheikh[3]

1 Department of Internal Medicine, Faculty of Medicine, University of Jeddah, Jeddah, Kingdom of Saudi Arabia
2 Department of Internal Medicine, Balsam Medical Center, Jeddah, Kingdom of Saudi Arabia
3Department of Internal Medicine, Faculty of Medicine at Rabigh King AbdulAziz University, Saudi Arabia
4 Department Commitment Management, Ministry of Health, Saudi Arabia
5 International Extended Care Center, Jeddah, Saudi Arabia

Corresponding author:
Dr. Mazen A. Basheikh
Department of Medicine, Faculty of Medicine, University of Jeddah
Jeddah, Saudi Arabia
Phone: 966504325067
Email: mabasheik@uj.edu.sa

Received: February 2023. Accepted: March 2023; Published: April 1, 2023.
Citation: Mazen A. Basheikh et al. Prevalence of Behavioral and Psychological Symptoms in Bedridden Dementia Patients. A Study from Jeddah, Saudi Arabia. World Family Medicine. March 2023; 21(3): 6-12
DOI: 10.5742/MEWFM.2023.95256066

Abstract

Background: Bedridden patients who are suffering from dementia require close care which is usually done by a relative or a professional caregiver. The caregiver may face inappropriate behaviors from the patient that should be handled with patience.

Objective: To determine the prevalence of Behavioral and Psychological Symptoms among bedridden dementia patients.

Methods: This is a cross-sectional study that utilized a structured questionnaire for data collection. The caregivers of bedridden patients diagnosed with dementia were targeted to fill out the questionnaire. No specific exclusion criteria were applied. The demography of the patients and caregivers was obtained along with BPSD and the responses of the caregivers.

Results: A total of (64) responses were analyzed. The mean age for patients was 77.3±8.8. Of the patients, 59.7% were males whereas 77.6% of the caregivers were females. The median (IQR) for caregivers was 40 (35-45). Repeating sentences/questions and complaining were the most common reported behaviors with 37.3% each, followed by constant demand for unnecessary assistance by 29.9% of the patients.

Conclusion: BPSD's prevalence in patients with dementia in the community was found to be 50.7%.

Key words: Alzheimer, Caregiver, Dependent, Elderly, Inappropriate behavior

Introduction

Behavioral and psychological symptoms of dementia (BPSD), also known as neuropsychiatric symptoms, represent a heterogeneous group of non-cognitive symptoms and behaviors occurring in subjects with dementia [1]. Symptoms like delusions, anger, impatience, abnormal motor activity, impulsiveness, melancholy, anxiousness, and apathy are among the symptoms of BPSD [2]. Interactions among dementia severity, external conditions, and other (somatic) disorders are hypothesized to cause the manifestations [2][3].

BPSD were proven to cause stress on both formal and informal caregivers in contexts such as skilled nursing facilities and private residences and become harder to manage than cognitive deficiencies associated with dementia [4].

Dementia patients are at a greater risk of being admitted to hospitals and BPSD can make the treatment more difficult resulting in prolonged stays and higher expenses [5]. In professional acute clinical contexts such as psychogeriatric units, BPSD were already studied [6]. However, no comprehensive studies have been carried out about BPSD in community home settings.

This study aims to determine the prevalence of inappropriate behavioral and psychological acts among bedridden dementia patients toward their caregiver, toe improve the care setting which will affect the overall outcome.

Methodology

Study design

This is a cross-sectional study that targeted the caregivers of bedridden patients diagnosed with dementia.

Study population

The population of the current study included bedridden patients with a documented confirmed diagnosis of dementia. There were no exclusion criteria. The targeted population included the caregivers of any relationship with bedridden dementia patients. The caregivers had to spend a minimum of 40 hours per week with the patient in the same household in order to be included in the study. One caregiver per patient was included.

Data collection

The data collection was done through a structured questionnaire given to the caregivers at homes. The caregivers were the source of data in this study. The questionnaire inquired about sociodemographic characteristics for both the patient and the caregiver, representing the first two sections of the questionnaire. The third section included items identifying the inappropriate behaviors faced by the care givers while the last section included the responses and attitude of the caregiver towards inappropriate and aggressive behaviors. The data collection took place between January and March 2019

Statistical analysis

A computer program (the Statistical Package for the Social Sciences, SPSS, version 27.0) was used for data analysis. Continuous variables were summarized using mean/ standard deviation (SD) or median/interquartile range (IQR) as appropriate. Inappropriate behaviors among the patients were measured using eight variables of scaled answers (never, once or twice an hour, many times an hour, once or twice a day, many times a day, once or twice a week, many times a week, less than once a week). The responses were re-coded to compose a binary variable describing the occurrence of the behavior regardless of its frequency. The outcome behaviour represented the outcome variables and were represented using proportions and tables. The Chi-square and Fisher exact tests were used to find associations between categorical variables. Findings were considered significant if the P-value was less than 0.05.

Ethical considerations

The study was ethically approved by the research committee at King Abdulaziz University, Jeddah Saudi Arabia, approval number (HA-02-J-008). Prior to data collection, an introductory message was written to explain the study and to gain consent. The data were anonymous with no personal identifier and were used for research purposes only.

Results

A total of (64) responses by caregivers were analyzed. The mean age of patients was 77.3±8.8 and 59.7% were males. All the patients had multiple comorbidities. Diabetes mellitus, hypertension and cardiovascular diseases were the most common comorbidities. The sociodemographic and comorbidities of the patients are shown in Table 1. The median age for caregivers was 40 (35-45) and 77.6% were females. The relationship with the patient, nationality, education level and other characteristics of caregivers are shown in Table 2.

The behaviours were inquired about using eight questions. 34 of the patients showed psychomotor symptoms. Complaining and repeating questions and sentences were the commonest behaviours reported (73.5%) each. Other behaviours are presented in Figure 2. The caregivers were also asked about their reactions to the BPSD. The questionnaire inquired about 16 suggested reactions to be scaled by the caregiver according to its frequency. The responses are shown in Table 3.

40% of the caregivers will try to find out the reason for the patient behaviour and act toward it to prevent its recurrence. Another 40% will adjust their daily schedule according to the patient's needs while 27% will conduct some activities to ensure memory condition stability.

The patients' characteristics, comorbidities and caregiver characteristics were tested for significant associations with the inappropriate behaviors. Screaming was significantly higher in female patients (P-value=0.043), 70% of the patients who experienced screaming were females.

Table 1: Sociodemographic characteristics of the patients

		N	%
Age of the patient	75 or less	30	44.8%
	>75	37	55.2%
Gender	Male	40	59.7%
	Female	27	40.3%
Diabetes	No	28	41.8%
	Yes	39	58.2%
Hypertension	No	23	34.3%
	Yes	44	65.7%
Cardiac diseases	No	54	80.6%
	Yes	13	19.4%
Marital status	Married	44	65.7%
	Widow	22	32.8%
	Single	1	1.5%

Table 2: Sociodemographic characteristics of the caregivers

		N	%
Age of the caregiver	<35	16	23.9%
	35-45	36	53.7%
	>45	15	22.4%
Gender	Male	15	22.4%
	Female	52	77.6%
Have you been trained to deal with aggressive behavior	No	67	100.0%
	Yes	0	0.0%
Nationality	Saudi	22	32.8%
	Non-Saudi	45	67.2%
Have you been subjected to aggressive behavior in the past 12 months	No	60	92.3%
	Yes	5	7.7%
Relation to the patient	First degree relative	34	50.7%
	Housemaid	14	20.9%
	Driver	5	7.5%
	Other	13	19.4%
	Second degree relative	1	1.5%
The percentage of time per day you spend accompanying the patient	>60%	63	94.0%
	30%-60%	4	6.0%
	<30%	0	0.0%
Education	Uneducated	11	16.4%
	Bachelor's degree	11	16.4%
	High/secondary school	24	35.8%
	Middle school	7	10.4%
	Primary school	14	20.9%

Figure1: Prevalence OF BPSD

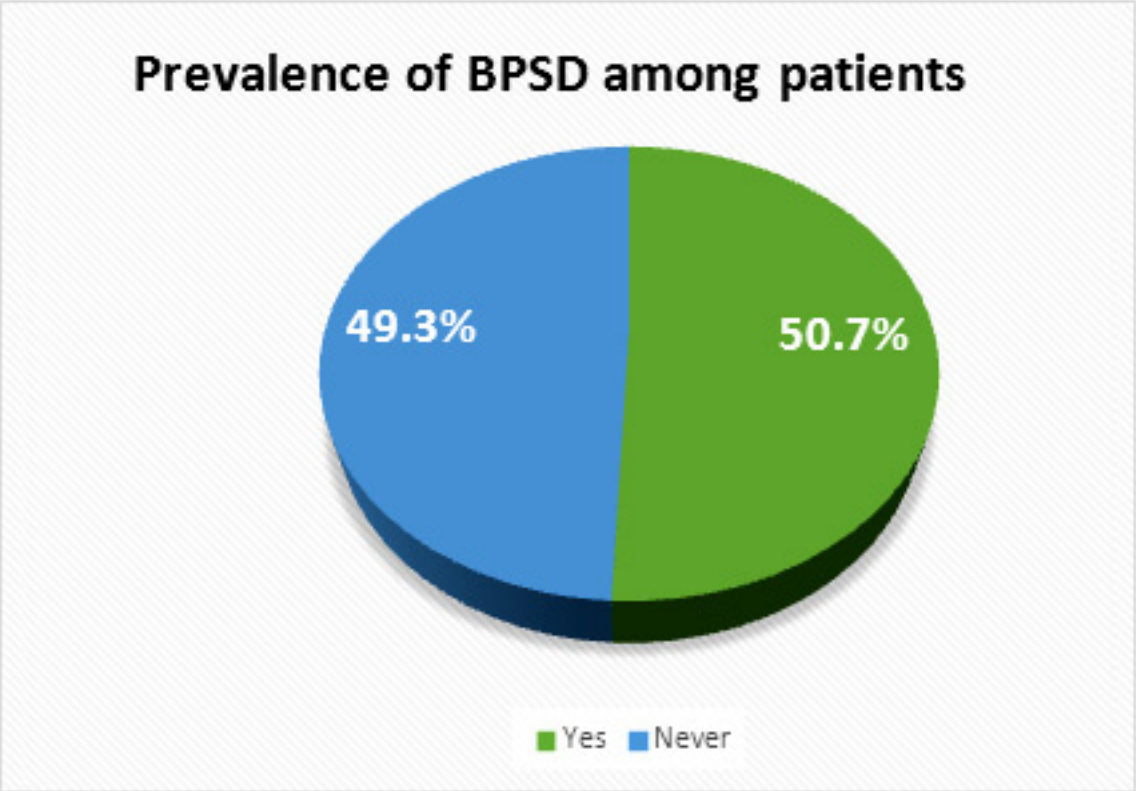
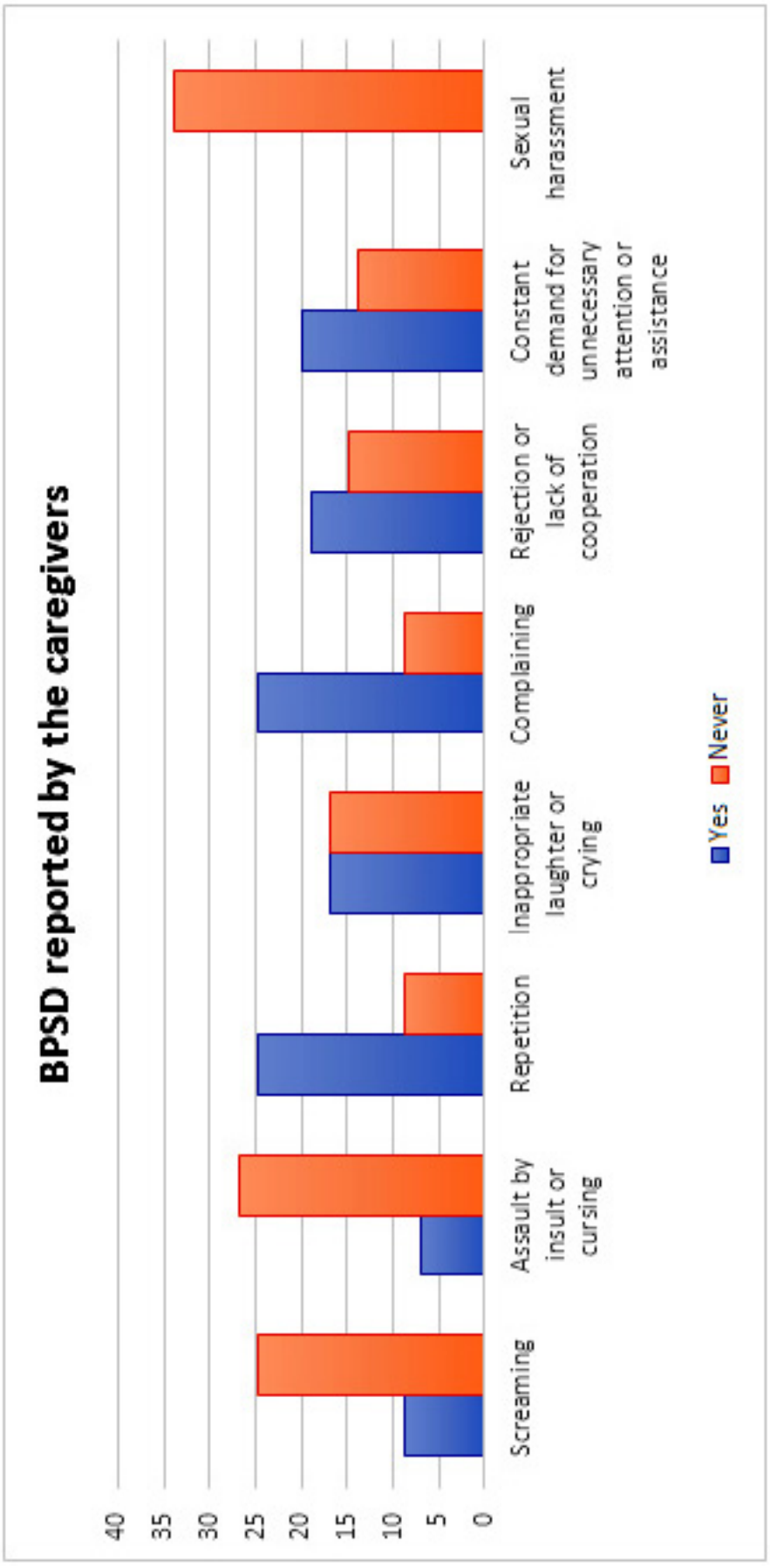


Table 3: Perceived actions by the caregivers towards the BPSD.

Caregiver action	Never (%)	Yes (%)
Attempt to find reasons to explain the patient`s behavior	56 (83.6 %)	11 (16.4%)
Attempt to know what the patient likes and does not like to avoid recurrence of this behavior	39 (58.2 %)	28 (41.8%)
Ask other relatives about this behavior	58 (86.6 %)	9 (13.4 %)
Attempt to find organic causes of the behaviors such as (pain, infection, constipation, etc.)	57 (85%)	10 (15%)
Discuss the patient`s behavior with different medical subspecialities	55 (82%)	12 (18%)
Document/record the patient`s behavior	60 (89.6%)	7 (10.4%)
Distract the patient from the behavior by changing the subject	60 (89.6%)	7 (10.4%)
Do some activities that contribute to memory stability	49 (73.1%)	18 (26.9%)
Do a therapeutic massage to improve patient`s mood and behavior	53 (79.1%)	14
Try to improve the level of movement and physical activity of the patient as much as possible such as walking, exercising, physical therapy session, etc.	50 (76.9%)	17
Distract the patient from the behavior by singing	62 (92.5%)	5 (7.5%)
Use aromatherapy	62 (92.5%)	5 (7.5 %)
Adjust the daily schedule according to the needs of the patient	41 (61.2%)	26 (38.8%)
Dealing with aggressive behaviors by humor	61 (91 %)	6 (9%)
Try to reassure and calm the patient down	39 (58.2%)	28 (41.8%)
Learn and apply self-control techniques (likes breathing exercise, place changes, etc.) towards the patient	55 (82%)	12 (18%)

Figure 2: BPSD reported by the caregivers. (Change page view)



Discussion

Neuropsychiatric symptoms in demented patients have a significant impact over the caregivers. Finding the correct approach to identify and evaluate these symptoms is a crucial part of the management plan [1].

When reviewing the literature, the prevalence of BPSD in patients with dementia was noted to be significantly higher than in bedridden patients without dementia, as demented patients' prevalence was 67% in comparison to non-demented group. The ratio is of more than twice compared to the non-dementia patients which was 38% [7]. In another study, it was found that almost 75% of dementia patients had at least one behavioral or psychological symptom [2]. Apathy, aggressiveness, depressed thoughts and hallucinations were the most prevalent among inpatients, while aggressive behavior, sleep disruption, activity disruption, and anxiety were reported to be the most common through emergency departments [8].

Our study showed that over 50.7% of dementia patients developed BPSD toward their caregivers. In other studies, designed for residents at nursing homes, BPSD was observed in 67% of the patients with moderate dementia, and 88% of those with severe dementia [7][9].

C Mühler et al., highlighted that patients with continuous mental distress were more likely to show aggression via screaming. In comparison to our study, screaming was found to be more associated with female gender group [10]. Repetition of sentences or questions was also found with similar rate, 73.5%, in comparison to other previous studies. [10][11][12].

A significant relationship between dementia and other comorbidities such as diabetes and cardiovascular disorders was found, as patients with these comorbidities were more likely to develop BPSD [13][14].

Diabetes mellitus has a proven association with BPSD. It has an impact on some components of cognitive functions like intellectual ability, cognitive training and flexible thinking, especially in the elderly which can lead to significant BPSD among patients [15].

Health-related quality of life (HRQOL) is a useful indicator of overall health, as it captures information on the physical and mental health status of individuals and the impact of health status on quality of life [16]. Multiple studies have found that these neuropsychiatric symptoms, as well as patients' cognitive decline, have massive impact on caregivers' HRQOL, mainly on the caregivers' mental health [17][18][19]. 40 % of the caregivers in our study have had to adjust their daily schedules according to the patient's demands. BPSD are considered incredibly challenging for caregivers and most of them experience a sense of decline in the relationship between them and the patient [20].

The study is unique, as it is conducted toward prevalence of BPSD in the community of Jeddah, Saudi Arabia, and to our knowledge it is the first on this subject.

The study is a cross-sectional study with typical design limitations. Therefore, no clear temporal association between caregivers' burden and BPSD was measured.

Conclusion and Recommendation

BPSD's prevalence in patients with dementia in the community is found to be 50.7%. Family education, non-pharmacological approach and attending psychiatric visits might help to overcome the caregivers` burden and to improve the quality of life for the patients and their caregivers. This study will help in a better understanding of BPSD from the caregiver's point of view.

References

1. Cerejeira J, Lagarto L, Mukaetova-Ladinska EB. Behavioral and psychological symptoms of dementia. Front Neurol. 2012 May 7;3:73. doi: 10.3389/fneur.2012.00073. PMID: 22586419; PMCID: PMC3345875
2. van der Linde, R.M., et al., Systematic reviews on behavioural and psychological symptoms in the older or demented population. Alzheimer's research & therapy, 2012. 4(4): p. 1-23.
3. Sampson, E.L., et al., Behavioural and psychiatric symptoms in people with dementia admitted to the acute hospital: prospective cohort study. The British Journal of Psychiatry, 2014. 205(3): p. 189-196.
4. Huang, S.-S., et al., Caregiver burden associated with behavioral and psychological symptoms of dementia (BPSD) in Taiwanese elderly. Archives of gerontology and geriatrics, 2012. 55(1): p. 55-59.
5. Phelan, E.A., et al., Association of incident dementia with hospitalizations. Jama, 2012. 307(2): p. 165-172.
6. Tan, L.L., H.B. Wong, and H. Allen, The impact of neuropsychiatric symptoms of dementia on distress in family and professional caregivers in Singapore. International psychogeriatrics, 2005. 17(2): p. 253-263.
7. Hessler, J.B., et al., The 6-Item Cognitive Impairment Test as a bedside screening for dementia in general hospital patients: results of the General Hospital Study (GHoSt). International journal of geriatric psychiatry, 2017. 32(7): p. 726-733.
8. Terracciano, A., et al., Effectiveness of powerful tools for caregivers on caregiver burden and on care recipient behavioral and psychological symptoms of dementia: A randomized controlled trial. Journal of the American Medical Directors Association, 2020. 21(8): p. 1121-1127. e1.
9. Bickel, H., et al., The prevalence of dementia and cognitive impairment in hospitals: Results from the General Hospital Study (GHoSt). Deutsches Ärzteblatt International, 2018. 115(44): p. 733.
10. Mühler, C., et al., Sex Differences in Behavioral and Psychological Signs and Symptoms of Dementia Presentation Regarding Nursing Home Residents with Cognitive Impairment Suffering from Pain. Results of the Services and Health for Elderly in Long-Term Care Study.

Journal of the American Medical Directors Association, 2021. 22(7): p. 1442-1448.
11. Auer, S.R., Höfler, M., Linsmayer, E. et al. Cross-sectional study of prevalence of dementia, behavioural symptoms, mobility, pain and other health parameters in nursing homes in Austria and the Czech Republic: results from the DEMDATA project. BMC Geriatr 18, 178 (2018). https://doi.org/10.1186/s12877-018-0870-8
12. Chen, Q., et al., Common psychiatric and metabolic comorbidity of adult attention-deficit/hyperactivity disorder: A population-based cross-sectional study. PloS one, 2018. 13(9): p. e0204516.
13. Basheikh, Mazen & AlQayidi, Ayman & Addas, Mohammed & Al-Zanbaqi, Mohammed & Abumelha, Abdulaziz. (2021). Prevalence of Systolic Heart Failure in Patients with Dementia in Saudi Arabia: Single-center retrospective data review. World Family Medicine Journal /Middle East Journal of Family Medicine. 19. 10.5742/MEWFM.2021.93975.
14. Liao, X., et al., Factors associated with health-related quality of life among family caregivers of people with Alzheimer's disease. Psychogeriatrics, 2020. 20(4): p. 398-405.
15. Holt, R.I., Diabetes, Depression, and Cognitive Disorders. Diabetes Complications, Comorbidities and Related Disorders, 2020: p. 687-714.
16. Palermo TM, Long AC, Lewandowski AS, Drotar D, Quittner AL, Walker LS. Evidence-based assessment of health-related quality of life and functional impairment in pediatric psychology. J Pediatr Psychol. 2008;33:983–996. doi: 10.1093/jpepsy/jsn038.
17. Briggs, R., et al., Dementia in the acute hospital: the prevalence and clinical outcomes of acutely unwell patients with dementia. QJM: An International Journal of Medicine, 2017. 110(1): p. 33-37.
18. Shepherd, H., et al., Hospitalisation rates and predictors in people with dementia: a systematic review and meta-analysis. BMC medicine, 2019. 17(1): p. 1-13.
19. Digby, R., S. Lee, and A. Williams, The experience of people with dementia and nurses in hospital: an integrative review. Journal of clinical nursing, 2017. 26(9-10): p. 1152-1171.
20. Feast, A., Orrell, M., Charlesworth, G., Melunsky, N., Poland, F., & Moniz-Cook, E. (2016). Behavioural and psychological symptoms in dementia and the challenges for family carers: systematic review. The British journal of psychiatry : the journal of mental science, 208(5), 429–434. https://doi.org/10.1192/bjp.bp.114.153684