CASE REPORT
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Telemedicine for the management of Behavior and Psychological Symptoms of Dementia (BPSD) during the COVID–19 pandemic

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ABSTRACT

Background: The majority of dementia patients exhibit behavior and psychological symptoms of dementia (BPSD). It is extremely painful for both patients and caregivers. Following the COVID-19 epidemic, it is necessary to strike a balance between social distance and isolation, because the loneliness created by quarantine can have harmful psychological implications, particularly for the elderly. BPSD patients and carers require greater health services in the setting of a pandemic. Telemedicine has the potential to lessen the likelihood of unfavorable outcomes in mental health treatment. We hope to highlight how BPSD does not worsen in patients during the pandemic and how telemedicine can be a significant option in the current scenario in this post.

Case illustration: The older woman aged 76 years, came to the psychiatric polyclinic at RSUD Dr. Soetomo with complaints that he often forgets for 2 years, counting money over and over again, and is angry if not given money, but if given money the patient will distribute it to neighbors, and some will be spent. Patients often talk slurred, talk to themselves, talk dirty, and do violence, such as hitting and throwing things. During the COVID-19 pandemic, the family did not bring patients for control to the hospital. The family came to Poly to collect medicine. When the family arrived, the doctor communicated with the patient via video call.

Conclusion: The use of telemedicine allows patients and caregivers to get access to mental health services easily.

Keywords: BPSD, Elderly, Telemedicine
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INTRODUCTION

According to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5), dementia is a diagnosis of persistent intellectual decline that causes cognitive and functional deterioration, resulting in impaired social, work, and daily activities.[1] Dementia can be caused by a number of reasons, including basic neurological, neuropsychiatric, and medical conditions. The most common causes of dementia in those over the age of 65 are Alzheimer's disease, vascular dementia, and mixed-type dementia. Other types of dementia, such as Lewy body dementia, frontotemporal dementia, Normal Pressure Hydrocephalus (NPH), alcoholic dementia, infectious dementia (such as HIV or syphilis), and Parkinson's disease, account for roughly 10% of all cases. Reversible causes of dementia include metabolic problems such as hypothyroidism and dietary deficiencies such as vitamin B12 or folic acid, or pseudodementia caused by depression. Neurodegenerative dementias, such as Alzheimer's disease and Lewy body dementia, are most common in the elderly.[2]

The great majority (up to 90%) of dementia patients suffer from Behavior and Psychological Symptoms of Dementia (BPSD), creating substantial discomfort for both patients and caregivers. Excited behavior (such as agitation and aggression), mood disorders (such as apathy, melancholy, and anxiety), psychosis (such as hallucinations and delusions), and other symptoms (such as dietary disorders and sleep issues) are all signs of bipolar disorder.[3] In general, many international experts and guidelines prefer non-pharmacological therapies like psychosocial therapy and complementary and integrative medicine in treating BPSD. However, psychotropic medicines are routinely utilized in clinical settings; thus, the importance of developing and actively implementing effective non-pharmacological therapies is highlighted.[4]

Following the COVID-19 outbreak, there has been an increase in awareness about the disease and concerns about its global mental health implications. Patients with dementia are more susceptible to viral morbidity and death than the elderly without dementia because they have more chronic illnesses such as cardiovascular disease, diabetes, and pneumonia. The adoption of social isolation and self-isolation as the most effective COVID-19 prevention techniques has created problems in health care and management, especially for the elderly. Telemedicine, a distant medical practice that uses telecommunications and information technology, appears to be a viable alternative to in-person consultations.[5] The article will highlight how BPSD in

patients does not deteriorate during the pandemic and how telemedicine can be a crucial option in the current situation.

CASE ILLUSTRATION

The elderly female patient, 76 years old, Javanese, Muslim, did not finish elementary school, is a widow, and is domiciled in Gresik. The patient came to the Psychiatric Polyclinic accompanied by 2 of his children with complaints of forgetfulness. Complaints of frequent forgetting have occurred for more or less 2 years, namely in early 2020. Soetomo for a more complete examination. The patient had one control, but after that, there was a pandemic, and the patient was not taken for control. Children always come to the hospital to take medicine and consult a doctor. While consulting doctors, they also communicate with patients via video calls. In addition, during treatment at home, the patient also always consults with the doctor about the patient's condition.

When interviewing a patient, the patient can return the examiner's greetings and say his name properly. The patient cannot state his home address completely and correctly and also does not know the place during the examination. The patient also said that he is currently 40 years old. So I can't answer many questions from doctors. The patient always said that his money was always decreasing, so he always counted the money over and over again and often got angry if he was not given money. After being given money, the money was given to neighbors, and part of it was spent. Patients often speak slurred English, talk to themselves, and talk dirty. Patients also commit violence, such as throwing objects at other people, causing the person to be injured, and sometimes also hitting nearby people. Patients also often expel neighbors from their homes and say the house belongs to them. Patients also complain of difficulty sleeping; sometimes patients cannot sleep for three days. If you don't sleep, the patient will continue to talk to himself, call out to people who have died, and want to walk out of the house. The patient once walked out of the house; the family thought the patient only shopped at a neighbor's shop, but until late at night, the patient did not return. The patient was found two days later after the family got the missing person's information from Facebook. Patients also often ask about husbands or relatives who have died; the patient's child asks if the father or brother the patient is asking about is dead.

From the physical examination, blood pressure was 150/90 mmHg, pulse was 88 x/minute, and respiration was 20 x/minute. The patient has had a history of hypertension since 2018. Still, the patient does not routinely take hypertension medication because the patient feels short of breath after taking the drug, so the patient does not want to be controlled.

Psychiatric examination found positive contact, verbal, relevant, quite fluent, awareness composmentis, disorientation of time and place, and good people orientation. There was a palpable dysphoric affective mood, realistic thinking processes, slow thought flow, thought content preoccupation with money, and perceptual disturbances in the form of visual hallucinations. Memory immediate numbers: less, the patient can repeat 2 of the 3 objects named by the examiner. Short-term memory: impaired; the patient cannot remember the three names of objects mentioned earlier, and after a few minutes, the examiner talks about something else. Medium-term memory: lacking. The patient has difficulty remembering events from a week ago. Long-term memory: sufficient; the patient can tell about his youth and siblings' names. Concentration is disturbed, and the patient cannot do the calculation 5 times 100-7-7-7-7-7. Attention is disturbed, and the patient cannot properly pronounce the word "WAHYU" from behind. Patients seem exasperated with themselves when they fail. The ability to read and write is lacking; the patient cannot read and write well. The supporting examination found that the MMSE, Short Portable Mental Status Questionnaire (SPMSQ), had 9 faults (Heavy Damage to intellectual function).

Based on the history of the disease and mental status examination, this patient complains of forgetfulness, often a feeling of losing money, slurred speech, self-talk, and dirty talk. There are complaints of difficulty sleeping and seeing people who have died. The symptoms found at this time meet the diagnostic criteria in DSM-5, Major Neurocognitive Disorder with Behavioral Disturbance.

During the treatment process, patients are given psychopharmacological and non-psychopharmacological therapy. Psycho-pharmaceuticals were given: Donepezil 10 mg, compound capsules (Aripiprazole 2 mg + Trihexyphenidyl 0.5 mg), at night; lorazepam 2 mg orally, at night; vitamin B complex 2 x 1 tablet orally, morning and evening. Non-psychopharmacological therapy is provided with supportive psychotherapy and family psychoeducation. Modification of a comfortable and safe environment for dementia patients, such as arranging a regular schedule of activities for patients, trying to keep things in a fixed location, and if possible labeling with names that are large enough and easy to read, for example, a place for keys, a place for writing instruments, and so on. During the COVID-19 pandemic, doctors formed a strategy using technology in the form of developing telemedicine for home care purposes, for example, using smartphone or tablet technology for virtual medical examinations, counseling, or rehabilitation. The patient receives telemedicine monthly when the child comes to the pharmacy to collect the medicine. During the telemedicine process, doctors can communicate with patients so they can find out the patient's condition even though the patient does not come in person.

DISCUSSION

Dementia is anticipated to impact around 42.3 million individuals globally in 2020, with Alzheimer's disease (AD) being the most frequent cause, with vascular dementia (VaD) being the second most common type, accounting for at least 20% of all dementia cases.[6] According to a community-based epidemiological study, 61% of AD patients had one or more BPSD within the previous month, while 61% of those who did not have BPSD had at least one symptom within the previous 18 months.[7] Indonesia is one of 10 nations in the world with a dementia case count that exceeds one million. In 2020, the number of older adults in the United States will be at 27.08 million (9.99% of the total population) and account for around two-

fifths of the total elderly population in Southeast Asia.[8]

There is no single etiology for BPSD. The etiopathogenesis of BPSD is complex and multifactorial.[9] For the sake of simplicity and practicality, these factors can be divided into biological, psychological, and social or environmental factors. Dementia-associated brain lesions and altered neurotransmission have been associated with certain BPSDs.The effect may be moderated by other biological factors such as comorbidity or treatment-related factors, as well as the individual's genetic make-up. In the course of Alzheimer's disease (AD), psychotic symptoms are associated with neuronal loss in several brain regions, including the hippocampus, parahippocampal gyrus, and various brainstem nuclei. In mixed dementia (vascular and AD), vascular factors can trigger hallucinations, illusions, anxiety, dysphoria, aggression, and delirium.[10]

Hypertension is associated with stroke; therefore, it is important to emphasize antihypertensive treatment in all patients with hypertension. Causes include the potential for brain damage in cases of hypertension. Blood pressure variability in the Asian elderly is still a problem. Diurnal blood pressure variations are associated with silent cerebrovascular damage and may lead to the development of dementia in the form of Alzheimer's disease. Strict nocturnal blood pressure control has a neuroprotective effect on the brain to prevent dementia.[11]

As first-line treatments for BPSD, non-pharmacological techniques such as cognitive stimulation training, exercise, music therapy, light therapy, and aromatherapy are recommended. However, pharmaceutical treatment with antipsychotics and other psychiatric medications is essential to treat BPSD. Despite the frequent incidence of adverse effects, antipsychotic medications are the primary choice for treating psychosis and behavioral problems. Atypical antipsychotics are currently first-line treatments for psychosis and inappropriate conduct in dementia patients.[3] Memantine NMDA, an anti-Alzheimer's disease drug, appears to be preferred to ChEIs in BPSD-antipsychotic combination therapy because it lowers antipsychotic-induced EPS.[3]

The current COVID-19 outbreak presents new and unexpected problems to public health and healthcare practitioners.[12] Recently, the global adoption of social distancing and self-isolation as the best preventive measure for the COVID-19 pandemic has created challenges in health care and elderly population management, which can trigger or exacerbate BPSD, and most caregivers are unprepared to face and overcome these challenges. Telemedicine is emerging as a way for enhancing acute symptom therapy and mental health care in the face of this genuine social alienation.[5] During the COVID-19 pandemic, telemedicine supplements healthcare by allowing direct delivery to patients' homes, minimizing the danger of potential infections, and enabling virtual triage to offset the severe psychological effects of social isolation.[13] The World Health Organization recently defined "telemedicine" or "e-Health" as the application of informatics and telecommunications technology, notably information and communication technology (ICT), to improve the health of patients. The primary goals of telemedicine are to improve access to health care in rural areas, give doctors better access to tertiary consultations, allow doctors to conduct remote checks, reduce health care costs, provide health services to a larger geographic area and/or population, reduce the need to transfer patients to care centers, and improve patient care.[14] While telemedicine interventions definitely have limitations when compared to in-person approaches in medicine, the advancement of new technologies has advantages over face-to-face healthcare, such as the ability for physicians to follow patients synchronously or asynchronously.[15] Synchronous telemedicine refers to real-time interventions via video calls made with a smartphone or webcam connected to a computer.[16-19] We have seen pandemic circumstances, but future research will focus on developing telemedicine in order to improve mental health treatments for the elderly, particularly those suffering from BPSD and dementia.

CONCLUSION

The COVID-19 pandemic has produced new obstacles in patient care, requiring health-care facilities to adapt. Information and communication technology can be extremely beneficial in this adaption process as well as in preserving human contacts with the rest of the globe. Telemedicine can help reduce the chance of negative mental health outcomes due to less social contact and fewer access to health services, as well as improve the management of dementia symptoms, including BPSD, and mental health care. It can also assist caregivers by making more flexible recommendations on non-pharmacological alternatives to symptom reduction.

CONFLICT OF INTEREST

The authors reported no potential conflict of interest.

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AUTHOR CONTRIBUTION

All authors contributed to data analysis, drafting, and revising of the paper and agreed to be responsible for all aspects of this work.

ETHICAL STATEMENT

The patient already gave consent regarding data and information in this study to be published.

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