*AINO JOURNAL, Vol. 18, 2020, pp. 21-29*

**Original Research**

# Use of antipsychotics in the elderly population with dementia and their factors

## —— Questionnaire survey of medical and welfare professionals ——

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**Abstract**

Non-drug therapy is the first choice in behavioral and psychological symptoms of dementia (BPSD) treatment guidelines in other countries, but antipsychotics are recommended in severe cases. However, the risk of severe side effects has been revealed and the use of antipsychotics is declining. Conversely, in Japan, the proportion of antipsychotic prescriptions for patients with dementia is slightly increasing to 21%. In this study, a questionnaire survey was conducted for medical and welfare workers involved in the treatment and care of elderly individuals with dementia with the aim of clarifying the usage status of antipsychotic drugs for elderly individuals with dementia and their factors. As a result of factor analysis, four factors were extracted for antipsychotic drugs : "patient and staff safety", "patient protection and management", "relationship and maintenance of medical treatment", and "smooth treatment and suppression of BPSD". Therefore, to reduce the use of antipsychotic drugs in the elderly with population with dementia, ensuring the safety of medical and welfare professionals, reviewing the protection and management of patients in hospitals and facilities, and elderly patients with dementia and their surroundings were suggested to maintain good relationships with patients and excellent hospital or home care.

**Key words** : elderly people with dementia, dementia care, antipsychotic drugs, non-drug therapy

## Introduction

In April 2005, The US Food and Drug Administration (FDA) : revealed the risk of increased mortality and poor behavior in elderly with dementia using atypical antipsychotics for psychological symptoms and requested a warning in the attachment of atypical antipsychotics that its use against behavioral and psychological symptoms of dementia (BPSD) is not indicated (FDA Talk Paper, 2005). In response to this, the Ministry of Health, Labour and Welfare stated in the "Guidelines for the Use of Psychotic Drugs for BPSD for Family Doctors (2nd Edition)" (2013) that antipsychotic drugs are not applicable for BPSD and instructed to consider the risk and benefit of patients, use with sufficient informed consent, evaluate the efficacy, and consider whether the drug can be reduced or discontinued at any time. However, since there are no alternatives to antipsychotic drugs after these warnings, many psychiatrists and non-specialists in Japan are currently using antipsychotic drugs for BPSD (Honma A., 2006. Nakagawa A., et al.).

According to a survey conducted in Japan in 2015, it became clear that approximately 90% of patients dementia with BPSD receive drug therapy, and 80% of these drugs are antipsychotics (Arai, 2016).

The purpose of using antipsychotic drugs in Japan is mainly to improve BPSD. There is also insufficient evidence regarding the efficacy of antipsychotics for BPSD (Junichi M., et al., 2014). However, "the effects of non-antipsychotics on BPSD are weaker than those of antipsychotics and there is no alternative to antipsychotics, so at this time there is no drug that can be recommended beyond antipsychotics" (Psychotropic). There is also an opinion on drug use for BPSD for family doctors (2nd edition, 2013). Furthermore, in elderly individuals with dementia, physical and psychological adverse effects, such as anticholinergic effects, muscle relaxant effects, oversedation, and side effects on the circulatory system, and serious side effects, such as increased mortality, have been pointed out.(Ueki ,2009).

Recently, such off-label prescriptions have become a problem, and research is being conducted to investigate the factors behind the use of antipsychotic drugs. To summarize previous studies, the factors for using antipsychotic drugs are roughly classified into patient, staff, and environmental factors. First, patient factors include the onset of behavioral symptoms and risk of falls. Staff factors include negative attitudes toward behavioral symptoms (Nakahira M. et al., 2009), discrimination against the elderly populatin, lack of assessment, lack of alternatives to drugs, and overdependence on antipsychotics (Wood–Mitchell A. et al., 2008) .

In addition, according to an interview survey physicians strongly believe that caregivers and nurses can use antipsychotic drugs easily and quickly and have no choice but to prescribe them under the pressure of caregivers and nurses to "do something quickly". The fact that it is performed (Bishara D. et al., 2009) has also been clarified. The environmental factors, were the organizational culture and number of personnel. In this way, it can be inferred that there may be a situation in which the use of antipsychotic drugs is unavoidable in the background of the fact that the risks related to the use of antipsychotic drugs are well known, but the use of antipsychotic drugs is prohibited. I believe that it cannot be solved by the alternative discussion. A non-pharmacological approach to BPSD is essential to reduce the use of antipsychotics in the elderly population with dementia, and non-drug therapies, such as reminiscence, music therapy, and cognitive rehabilitation and enhanced care for the elderly population with dementia are indispensable.

Therefore, in this study, to obtain suggestions on the reduction of antipsychotic drug use and non-pharmaceutical care for BPSD, the dementia care ward was targeted at medical and welfare professionals involved in the treatment and care of elderly population with dementia. We conducted a survey on the status of antipsychotic drug use in Japan and its factors.

## Materials and Methods

We prepared a questionnaire about the situation and factors of using antipsychotic drugs, and conducted a self-administered questionnaire survey by mail. The selection of survey targets was addressed to the hospital directors and nursing department managers of 430 facilities that have dementia treatment wards and senile dementia disease treatment wards nationwide, which are published on the website of the Japan Association of Psychiatric Hospitals and requested in writing (mail). Next, a questionnaire for the number of survey collaborators who responded was mailed to the facility where consent was obtained. Responses from each collaborator were individually collected in the enclosed return envelope.

1) Survey target : dementia treatment nationwide published on the Japan Psychiatric Hospital Association website, medical professionals (physicians, nurses) working in 430 facilities with wards and senile dementia disease treatment wards 927 individuals, and a welfare professional (care worker/helper).

2) Survey period : July September 2013

3) Preparation of questionnaire and preliminary survey

The questionnaire consists of (1) an information sheet that describes the background of the research, research purpose, confidentiality, anonymity, contact information of the principal investigator, etc., and (2) Face sheet to question the basic information of the research subjects (gender, age, occupation, etc.)

It was composed of three parts consisting of a sheet and (3) survey contents.

The survey consists of basic information and questions about the use of antipsychotics and why they are used. The four scale of "applicable", "somewhat applicable", "somewhat not appli-

cable", and "not applicable" were used according to the qualitative research conducted by the authors (Nakahira M. et al. 2012, Kawamura K.et al. 2012, Yoshida S. et al. 2013)

Based on the refined category, we extracted the reasons for using antipsychotic drugs for elderly people with dementia and created a questionnaire.

Using this questionnaire, the contents were confirmed by staff (doctors, nurses, care workers) other than the research subjects and research members, and a preliminary survey was conducted on approximately 20 research subjects to examine the question items. As a result, 74 questions were set.

4) Analysis method

For questions regarding basic information, antipsychotic drug use, and reasons for its use (four methods), basic statistics were calculated, and major factor analysis (Varimax method with Kaiser normalization) was performed.

In addition, when the analysis was conducted by occupation, the number of other occupations was small compared to 86.8% for nurses (nurses / associate nurses), and there was no difference in the answers. Therefore, the results are not shown by job type.

The purpose of the research, guarantee of freedom for cooperation in the research, protection of anonymity and privacy of the subjects, and use of data for purposes other than the purpose of this research were explained in writing, and consent to the participate in the research was indicated by returning the questionnaire. The obtained data will be stored in a keyed cabinet in the principal investigator's laboratory and will be shredded at the end of the research and then discarded. This study was approved by the Research Ethics Committee of Umehana Women's University (approval number. 0010-0031; approval date. October 23, 2013).

## Results

There were 683 (recovery rate. 73.6%; valid response rate. 100%) questionnaires collected. The age of the respondents was as low as 80.3% in their 30 s to 50 s, 11.6% in their 20 s, and 6.1% in their 60 s and over. The occupations were physicians 4.1%, nurses in 64.0%, associate nurses in 22.8%, and medical staff in 90.9%. Conversely, 5.7% were care workers and 0.6% were helpers, and the proportion of welfare workers was as low as 6.3%, but the total nursing and long-term care workers accounted for 93.1% of all occupations.

Table 1 Background of respondents and hospitals

n=683

| Question | item | n | % |
|---|---|---|---|
| Age composition | 20 s | 79 | 11.6 |
| | 30 s | 176 | 25.8 |
| | 40 s | 195 | 28.6 |
| | 50 s | 177 | 25.9 |
| | 60 years and over | 42 | 6.1 |
| Sex | male | 178 | 26.2 |
| | Female | 495 | 72.5 |
| Occupation | physician | 28 | 4.1 |
| | nurse | 437 | 64.0 |
| | Associate nurse | 156 | 22.8 |
| | Care worker | 39 | 5.7 |
| | helper | 4 | 0.6 |
| | ather | 11 | 1.6 |
| Years of experience in dementia care | Under 5 years old | 327 | 47.9 |
| | 5 years ～ 9 years | 201 | 29.4 |
| | 10 years－14 years | 78 | 11.4 |
| | 15 years－19 years | 37 | 5.4 |
| | 20 years－24 years | 14 | 2.0 |
| | 25 years－29 years | 4 | 0.6 |
| | 30 years and over | 6 | 0.9 |

The total number of years of service was the highest at 18.3% for >5 years and <10 years, and 17.9% for >10 years and <15 years. This was followed by 14.5% for <5 years and 15.5% for >15 years and <20 years, both of which were dispersed in each year by a small margin. Medical and welfare corporations accounted for 97.8% of the establishments, and the National Hospital Organization (National Hospital Organization) accounted for only 0.1% (Table 1).

### 1. Antipsychotic drug

Regarding the usage status of antipsychotic drugs, "sometimes used" was 41.0% and "frequently used" was noted in 44.5%. When these two are combined and viewed as the answer of "using", it showed a high value of 85.5% (Table 2).

Table 2 Status of use of antipsychotic drugs for elderly people with dementia

n=683

| Scale | Category | frequency | % |
|---|---|---|---|
| 1 | not using | 9 | 1.3 |
| 2 | not used much | 63 | 9.2 |
| 3 | sometimes used | 280 | 41.0 |
| 4 | frequently used | 1 | 44.5 |
| | unknown | 27 | 4.0 |
| | total | 683 | 100.0 |

### 2. Reason for using antipsychotics

As for the reason for using antipsychotic drugs, regarding the relative frequency (%), which is the sum of "occasionally used" and "frequently used"

on the four-case evaluation scale, "used to calm excitement Yes" was the most common answer at 93.6%, and used to protect the safety of the person was the most common at 88.9%. In addition, 86.1% said that they used it according to the physician's treatment policy, 85.9% said that they used it to relieve their frustration, and 85.9% said that they used it to relieve their anxiety. There were six items, including 84.9% stating that "I use it to relieve" and 83.7% stating that "I use it to control violence" (Table 3).

On the contrary, the reason for the small number of respondents was "I use it because of lack of knowledge of the care worker" at 6.4%, followed by "I use it to prioritize work" and "Insufficient experience of the care worker". Moreover 6.6% of the respondents answered "I use it because I am doing it", and 6.7% answered "I use it because of lack of knowledge of nurses" and "I use it because of lack of knowledge of doctors". Other reasons for <10% were "I use it because I don't have enough time for care", "I use it to meet the wishes of the caregiver", and "Experience of a nurse". There were 10 items, such as "I am using it because I am lacking", "I am using it because I am lacking in experience as a doctor", and "I am using it because of the wishes of the nursing staff" (Table 4).

Principal component analysis was performed in all 74 questions, but the principal components could not be extracted. Therefore, to eliminate the bias of the answers, >80% of the 74 questions were answered as "applicable", "somewhat applicable", "not applicable", or "somewhat not applicable". Twenty-nine items were deleted, and exploratory factor analysis was performed on the remaining 45 items.

The number of principal components was determined to be "4" comprehensively from the cumulative contribution rate (74%), eigenvalues, and screen graph. The name of each main component is that the first main component is for the safety and protection of staff and patients, such as alleviating abuse and violence against staff, suppressing resistance to treatment and care, alleviating sleep deprivation, eating different foods, and preventing falls. Since it consists of influential questions, it was designated as "patient and staff safety." The second main component is "patient protection and management" because it focuses on questions related to patient protection and management, such as protecting the safety of staff, following the instructions of nurses and hospital/ward policies, and the third main component is related to the relationship between the person and family and other patients, such as reducing the burden on family, maintaining and improving the relationship with other patients, and maintaining group life and home medical treatment. Since it consists of questions related to maintenance of medical treatment life, it was designated as "relationship and maintenance of

Table 3 Reasons for frequent use of antipsychotic drugs Frequency distribution (excerpt)

n=683

| Most common reasons for using antipsychotics | frequency | % |
|---|---|---|
| using it to calm my excitement | 639 | 93.6 |
| used to protect the safety of the patient | 607 | 88.9 |
| used according to the physician's treatment policy | 588 | 86.1 |
| used to relieve the feeling of frustration of the patient | 587 | 85.9 |
| used to relieve anxiety of the patient | 580 | 84.9 |
| used to control violence | 572 | 83.7 |

Table 4 Reasons for low use of antipsychotic drugs Number distribution (excerpt)

n=683

| Fewer answers because of using antipsychotics | frequency | % |
|---|---|---|
| used due to lack of knowledge of care workers | 44 | 6.4 |
| used to prioritize duties | 45 | 6.6 |
| used due to lack of experience in long-term care | 45 | 6.6 |
| used due to lack of knowledge of doctors | 46 | 6.7 |
| used due to lack of knowledge of nurses | 46 | 6.7 |
| using it because I don't have enough time for care | 49 | 7.2 |
| used to do so to the wishes of the caregiver | 52 | 7.6 |
| used to meet the wishes of care workers | 54 | 7.9 |
| using it due to lack of experience as a doctor | 54 | 7.9 |
| used to meet the wishes of nurses | 55 | 8.1 |

medical treatment life". The fourth main component is "smooth treatment and suppression of BPSD" because it consists of suppression of BPSD, such as suppression of delusions and hallucinations, and questions related to treatment priority and efficiency (Table 5).

Table 5 Factors analysis (4 factors) ; Component matrix after rotation

| Reasons for using psychotic drugs "I'm using it for ..." | factor | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Q 4 Alleviate rants against staff | .702 | .235 | .129 | .053 |
| Q 3 Preventing sleep disturbances in other patients | .649 | .072 | .133 | .097 |
| Q 29 Quiet the loud voice | .604 | .081 | .248 | .261 |
| Q 1 Relieve rants | .588 | .026 | .074 | .236 |
| Q 11 Suppress violence against staff | .578 | .296 | .336 | .099 |
| Q 10 Prevention of annoying acts for other patients | .577 | .108 | .331 | .150 |
| Q 5 Reduce patient complaints | .574 | .428 | .108 | −.045 |
| Q 22 Quiet strange voices | .549 | .085 | .292 | .291 |
| Q 31 Suppress resistance to treatment | .503 | .449 | .332 | .148 |
| Q 2 Alleviate sleep deprivation | .461 | .070 | .116 | .262 |
| Q 62 Suppress pica | .422 | .387 | .040 | .318 |
| Q 37 Reduce resistance to care | .422 | .420 | .270 | .187 |
| Q 28 Preventing falls | .379 | .378 | .207 | .027 |
| 20 Follow the policy of the nurse | .249 | .665 | .140 | −.095 |
| Q 33 Follow the hospital policy | .125 | .658 | .152 | −.005 |
| Q 51 Used for patients who cannot take their eyes off | | .635 | −.015 | .235 |
| Q 71 Adapt to hospitalization environment | .264 | .632 | .078 | .287 |
| Q 6 Different from the ward policy | .189 | .565 | .142 | −.124 |
| 38 Follow the prescription before hospitalization | .124 | .548 | .140 | .181 |
| Q 49 There is no other solution | −.038 | .525 | .136 | .194 |
| Q 21 Protect the safety of staff | .463 | .510 | .395 | .000 |
| Q 74 Follow information that promotes drug use | −.023 | .505 | .095 | .270 |
| Q 43 Preventing escape from the hospital | .363 | .500 | .118 | .157 |
| Q 53 Care alone cannot deal with it | −.042 | .466 | .267 | .311 |
| Q 26 Reduce the mental burden on the family | .145 | .143 | .689 | .195 |
| Q 19 Enables medical treatment at facilities | .163 | .161 | .688 | .159 |
| Q 12 Enables home medical treatment | .018 | −.029 | .654 | .320 |
| Q 24 Improve the relationship with other patients | .396 | .202 | .586 | .099 |
| Q 17 Maintaining relationships with other patients | .381 | .180 | .577 | .044 |
| Q 30 Maintaining a group life | .374 | .291 | .567 | .081 |
| Q 25 Smooth care | .437 | .365 | .510 | .094 |
| Q 32 Follow the wishes of my family | .183 | .460 | .499 | .054 |
| Q 18 Smooth treatment | .423 | .355 | .464 | .155 |
| Q 7 Protect the safety of other patients | .340 | .148 | .419 | .097 |
| Q 23 Preventing self-harm | .321 | .027 | .411 | .325 |
| Q 57 There is a limit to care alone | −.035 | .367 | .401 | .333 |
| Q 65 To suppress delusions | .209 | .068 | .206 | .742 |
| Q 56 Suppress hallucinations | .139 | .039 | .262 | .718 |
| Q 68 Suppressing symptoms immediately after hospitalization | .211 | .360 | .132 | .545 |
| Q 66 Perform treatment efficiently | .157 | .448 | .162 | .528 |
| Q 35 Suppressing nighttime delirium | .384 | −.003 | .207 | .505 |
| Q 40 Preventing day and night reversals | .367 | .211 | .114 | .461 |
| Q 69 Prioritize treatment | .194 | .452 | .095 | .457 |
| Q 59 Suppress wandering | .424 | .326 | −.064 | .425 |
| Q 73 Suppressing patient fatigue | .092 | .304 | .318 | .365 |

Factor extraction method : Principal component analysis
Rotation method : Varimax method with Kaiser normalization
The rotation converged after 9 iterations

## Discussion

### 1. Respondent attributes

Respondents were mainly in their 30 s to 50 s, with few in their 20 s and 60 s or older. From this, it can be inferred that young nurses with little clinical experience are less likely to find employment in the dementia care ward and will start working in other wards. In examining the total number of years of service, 51.7% had work experience of >5 years, accounting for about half, while 14.5% had <5 years of work experience. Moreover, the number of associate nurses was relatively large at 22.8%. It cannot be said that this directly affects the quality of dementia care but is not a desirable situation.

It is said that there is a great demand for nursing-related facilities because associate nurses can perform medical treatments that nursing care workers cannot, but since the 1990 s, the Ministry of Health, Labour and Welfare has considered regular nurses and associate nurses as one. The Japanese Nursing Association also recommends regular nurses. The abolition of associate nurses is inevitable, and there is no future as a professional in charge of dementia care.

Furthermore, it is recognized by the "Reiwa 2nd Year Medical Fee Revision" with the aim of preventing the deterioration of dementia and smoothly receiving treatment for physical illnesses by appropriately responding to multiple occupations with specialized knowledge, such as nurses. Dementia care will be added. As this evaluation standard, "assign a full-time doctor who has sufficient experience in the treatment of dementia patients or a full-time nurse who has completed training with more than 5 years of experience in nursing dementia patients" is indicated. In addition, in 2016, the Ministry of Health, Labour and Welfare stated in a question inquiry by the All Japan Hospital Association that it is not possible for associate nurses to obtain "dementia care addition 2" as the number of staff (All Japan Hospital Association News, 2016). The situation where the number of years of service is short, that is, the number of nurses who do not have sufficient experience and number of associate nurses who are working, is one of the reasons why addition of dementia care is not allowed, and it becomes a big issue in terms of medical fees.

### 2. Frequency of use of antipsychotics

This study, clarified that antipsychotic drugs are used as often as in previous studies (Arai H. 2016, Hashimoto M. 2014, Junichi M., et al. 2014). BPSD individualized and prone to change and upset because it is affected by physical factors, relationships with family and surroundings, living environment, and psychological factors. Therefore, it becomes difficult to deal with aggressive words and behaviors, hallucinations, delusions, etc., increasing the risk of accidents in and around the person and burden on the person who treats or cares for them. Antipsychotics are said to be particularly effective in hallucinations, delusions, aggression, and impatience among BPSD (Wood-Mitchell A. et al, 2008), and if these symptoms can be alleviated, it can be inferred that this will lead to ensuring the safety of elderly individuals with dementia and reducing the burden on nurse or long-term care workers. Based on this situation, non-drug intervention is the first choice principle in the abovementioned "Guidelines for the use of psychotropic drugs for BPSD", but if the effect cannot be expected or is not appropriate, antipsychotic drugs is approved (Nakahira, 2009). Even in Japan, many physicians hesitate even after the FDA's warning because there is no alternative to antipsychotics, even if the antipsychotics are not indicated for use in the treatment of BPSD. However, it can be inferred that antipsychotic drugs are being prescribed to improve the quality of life (QOL) of patients (Junichi M., et al. 2014).

While antipsychotics should not be used in principle because they increase the risk of severe side effects and oversedation in the elderly population, the QOL of patients with dementia is a factor and may also be affected by BPSD or psychotropic drugs for its treatment. BPSD lowers the patient's quality of life and increases the burden on nurses or long-term care workers. However, it is also a symptom that may be improved by appropriate intervention, and how to deal with BPSD is an extremely important issue in maintaining or improving the QOL of patients with dementia. Therefore, it is argued that antipsychotic drugs should be continued to improve the QOL of patients (Hashimoto, 2016).

Based on the abovementioned discussion, if it is difficult to treat BPSD with non-drug therapy and non-drug care alone, the patient's condition should be assessed accurately and appropriately, and the possibility of drug therapy should be discussed in consultation with a physician. To that end, it is essential to improve the knowledge of medical and welfare workers regarding psychotropic drugs, including antipsychotic drugs. We believe that a non-drug care approach to patients will be possible from a broad perspective, including drug

therapy, only if we can fully understand effects of psychotropic drugs.

In a simple tabulation of the reasons for using antipsychotics, "used to calm excitement", "used to protect the safety of the person", "used to relieve the person's anxiety" were indicated. More than 80% of the respondents" stated. "I'm using it to relieve my anxiety" and "I'm using it to control violence." It is presumed that the patient is in a state of restlessness, and the urgent and necessary need for sedation can be inferred. BPSD has been determined as a factor that makes dementia care difficult (Nakamura Y. 2010, Sugawara D. 2013), but the aggressive condition of these patients increases the burden on nurses and long-term care workers. In addition, as for the reasons for hospitalization of patients with dementia in the psychiatric ward, there are many cases where BPSD becomes prominent, and home care and nursing care become difficult (Nakagawa A., et al. 2010), and it is shown that dementia care is difficult.

The incidence of BPSD in the elderly population with dementia is as high as 70–90% (Black W., Almeida OP. 2004), and nurses find "behavioral attacks" to be the most difficult. In addition, "behavioral attacks" are difficult to reduce, and we recognize that this increases other risks, such as falls (Sato Y., et al. 2012), which BPSD. Particularly, it is thought that the burden of aggression, such as excitement and violence, is increasing. Moreover, 86.1% of the respondents also answered that they are using it according to the physician's treatment policy, but it is stipulated that nurses and long-term care workers should assist or provide medical care under the instructions of physician's. Although they may give their opinion on the physician's treatment policy, it is inevitable to follow that decision. However, team medical care has been promoted, and it has been evaluated that the findings and opinions obtained by nurses or long-term care workers through care in patients' daily lives are important. Therefore, the ability to make decisions based on one's own specialty and follow the physician's treatment policy is required. On the contrary, the percentages of physicians, nurses, and care workers who "used due to lack of knowledge" and "used due to lack of experience" were as low as 8% . Due to lack of knowledge and experience regarding side effects of BPSD and antipsychotic drugs, it was not possible to alleviate the symptoms by non-drug care, and it was speculated that there is a risk of relying on antipsychotic drugs in a straightforward manner, but in reality, knowledge and experience Due to the deficiency, it was found that antipsychotic drugs are rarely used. Knowledge of drug-independent care for dementia has spread with the spread of person-centered care (Kitwood T. 2015), humanitude (Miwako H., et al. 2014), and validation (Naomi Fail, 2014), etc. is becoming widely established in medical and welfare professionals.

In addition, "I use it to prioritize my work", "I use it because I don't have enough time for care" and "I use it to meet my wishes" were noted in nurses or care workers. All were as low as 8% or less. This indicates that nurses and care workers rarely use antipsychotic drugs for business reasons.

It is no exaggeration to say that the high level of professional awareness in dementia care promotes non-drug care.

In Western countries such as Australia and Canada, the use of antipsychotic drugs for the elderly with dementia is basically prohibited. There is a consensus that non-pharmacotherapy should be prioritized for behavioral symptoms in the elderly with dementia. However, in reality, off-label is used in most countries.

Although it is not possible to make a simple comparison due to differences in survey methods, the usage rate of antipsychotic drugs for elderly institutional residents is 29% to 32.88% in the United States (Chen et al. 2010), 23% in Australia (Nishtala et al. 2009), and 28.4% in Germany (Mayer et al. 2008).

Factors for using antipsychotics are roughly divided into (1) patient factors, (2) staff factors, and (3) environmental factors. (1) Patient factors include behavioral symptoms, fall risk, young people, (2) Staff factors include negative attitudes toward behavioral symptoms (Nakahira et al. 2009), discrimination against the elderly, lack of assessment, and non-drugs. Lack of choices, over-dependence on antipsychotics (Wood–Mitchell et al. 2008), and (3) environmental factors such as organizational culture and number of personnel have been identified. Furthermore, regarding (2) staff factors, we strongly believe that caregivers and nurses can use antipsychotic drugs easily and quickly through interview surveys with doctors (Wood–Mitchell et al. 2008). It has become clear that nurses are unavoidably prescribing due to the pressure of "I want you to do something quickly" (Bishara et al. 2009). A questionnaire survey of doctors by Cohen–Mansfield and Jensen (2008) also found that caregivers and nurses over-demanding the use of antipsychotics became an

obstacle to drug-independent treatment and care. He states that he feels he is. On the other hand, in an interview survey of long-term care workers, doctors were reluctant to intervene in non-drugs, and patient families agreed to use antipsychotic drugs as the doctors told them. (Moore & Haralambous, 2007).

In this way, the factors for using antipsychotic drugs are different between Western countries and Japan. However, while all professionals involved in dementia care recognize that the use of antipsychotics is a problem, they are still using them.

Principal component analysis of the factors in the use of antipsychotics revealed that "patient and staff safety," "patient protection and management," "relationship and maintenance of medical treatment," and "smooth treatment and BPSD" were extracted. "Patient and staff safety", the first main component, is to ensure the safety of staff and patients by suppressing abuse and violence against staff and resistance to treatment and care, alleviating sleep deprivation of patients, eating different foods, and preventing falls. It consisted of questions related to ensuring the safety and health of patients and are also factors that reduce the burden of staff care. However, as mentioned above, few "individuals selected use to prioritize work" or "use due to lack of care time" as reasons for using antipsychotic drugs. From this, it can be inferred that it is different from staff, especially nurses or long-term care workers, who prioritize work efficiency and rationalization and use antipsychotic drugs to calm patients.

The second main component, "patient protection and management," is related to management to protect patients and maintain a medical treatment life in hospitals, such as protecting staff's safety and following nurse instructions and hospital / ward policies. Management here does not mean physical restraint of the patient or suppression of drug activity but observing or protecting the patient to adapt to the hospital environment, prevent accidents, and promote discharge.

The third principal component, "relationship and maintenance of medical treatment life," reduces the burden on the family, maintains and improves relationships with other patients, and maintains group life and home medical treatment. It consisted of questions related to the relationship between the person and his / her family and other patients, and the possibility of medical treatment at the facility and at home. These mean that BPSD cares for patients so that they are not alienated and isolated at the hospital or at home, such as breaking relationships with other patients and staff and being shunned by their families.

From the fourth main component, "smooth treatment and suppression of BPSD," BPSD requires a lot of time and effort with the intention of reducing the burden on nurses and long-term care workers due to chronic labor shortages in the field of dementia care. It can be inferred that antipsychotic drugs are prescribed for the purpose of suppressing dementia. In addition, from the simple tabulation results, there were many patient factors related to BPSD, such as sedation, ensuring personal safety, alleviating feelings of frustration and anxiety, and suppressing violence as factors for using antipsychotic drugs. This is also related to the three factors of "patient and staff safety," "patient protection and management," and "maintenance of relationships and medical treatment," which reduce the safety and burden on staff, especially nurses and long-term care workers. It is thought that this is the result of prescribing for the purpose. For patients with prominent BPSD, ensuring the safety of the patient and those around him is an absolute priority, but aggressive behavior can lead to self-harm and other injuries. Therefore, medical and welfare workers involved in the treatment and care of dementia need to control BPSD to ensure the safety of both and strive to prevent accidents, such as self-harm and other injuries.

As mentioned above, this study also revealed that many antipsychotic drugs are used. Regarding the factors to be used, staff, patient, and environmental factors are recognized, and in order for non-drug care to spread and take root, non-drug alternatives to these factors are required. In addition, from the results of factor analysis, to reduce the use of antipsychotic drugs in the elderly population with dementia, it is necessary to take measures to ensure the "safety of patients and staff", such as patient safety and other patients. "Patient protection and management" and "maintenance of relationships and medical treatment" are important to continue the medical treatment life while maintaining good relationships with the surroundings, such as family members. Furthermore, it was suggested that "smooth treatment and suppression of BPSD" are needed to suppress BPSD, which is a factor that makes dementia care difficult, and control BPSD so that appropriate treatment can be performed smoothly.

**Acknowledgments**

This study is part of the research conducted with the support of the Grant-in-Aid for Scientific Research C (23593482) in 2011. In addition, this research has not received any subsidies from any other companies or organizations, and no conflict of interest has occurred.

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