

Disaster Nursing in a Ubiquitous Society

**Nursing care provider guidance for elderly  
in shelters following disasters**

- Care needs and coping methods -

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# Nursing care provider guidance for elderly in shelters following disasters

## —Care needs and coping methods—

It has been suggested that the health of elderly people and their ability to cope on a day-to-day basis suffer in disaster situations: their vulnerability in various aspects of life is widely known.

To determine the care needs of elderly victims of disaster, we reviewed the research, surveys and literature published on disaster situations; the care needs and coping methods required by elderly evacuees are summarized in this booklet.

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## Foods

Meals distributed in shelters are sometimes inappropriate for the elderly who may have lost their dentures and have difficulty chewing. Therefore, the elderly are at risk of developing malnutrition or gastrointestinal symptoms such as diarrhea. Support is necessary to ensure suitable meals are provided for the elderly.

**The following are examples of meals distributed in Japan that elderly evacuees may have problems eating:**

- \* Firm rice balls
- \* Chilled packed lunches that may cause diarrhea
- \* Dry and brittle bread

### Assessment

1. Food intake, nutritional state
2. Eating/swallowing ability including use of dentures
3. Toileting state, gastrointestinal symptoms



## Coping methods

1. Ensure that distributed food can be readily eaten/swallowed, for example soften certain foods and include soups
2. Providing high-calorie foods when the risk of malnutrition is high
3. In elderly with malnutrition, determine whether admission to a hospital or institution is necessary
4. Elderly with diarrhea should be given priority in the distribution of warmth-retaining items such as floor mats, blankets, foot warmers
5. Request a consultation with a dentist for elderly with eating problems due to dentures or tooth defects



## Excretion

Temporary toilets in shelters are difficult for elderly evacuees to use. As a result they may drink less water, which can lead to dehydration. In addition, having to walk a long distance to toilets and any differences in the levels of the toilet may increase the risk of falls. Support is necessary to avoid possible problems.

### The following may be inappropriate for the elderly

- \* A long distance to the toilet, differences in level of the toilet
- \* Dimly toilets
- \* Difficulty to flush using a bucket of water

### Assessment

1. Water intake, food intake, excretion state, body temperature, and loss of body fluid
2. ADL in toileting
3. Location, facilities and environment of the toilet in the shelter



## Coping methods

1. Determine whether institutions can supply the elderly with appropriate toilets
  - 1) Set up western-style toilets (use of portable toilets)
  - 2) Set up toilets near the place of residence
  - 3) Eliminate differences in level and improve lighting in toilets
  
2. Support in toileting
  - 1) Evaluate and practice methods for helping elderly requiring assistance in toileting
  - 2) Take elderly requiring assistance to the toilet regularly, if necessary  
(be sure others, such as family members, help with regular toileting)
  
3. Prevent dehydration and provide early intervene
  - 1) Explain necessity for water intake and help supply water
  - 2) Provide medical treatment for dehydration as directed by a physician, and evaluate whether elderly evacuees would benefit from admission to an appropriate medical institution

## Sanitary problems

When services providing a lifeline are cut by disasters, it becomes difficult to supply water for toilets and baths, which causes unsanitary conditions. In particular, elderly evacuees with disabilities may be unable to take a bath for long periods of time making it difficult to maintain personal hygiene. To prevent infection in shelters, it is important that elderly evacuees, in particular those with disabilities, are provided the support they require to maintain personal hygiene.



### Assessment

1. Oral hygiene: bad breath, teeth, gargling, tooth brushing and denture washing
2. Skin: dirt and drying
3. Genital area: itching and discomfort
4. Self-care state of changes of clothes and cleanliness of bodies



## Coping methods

1. Obtain and provide whatever is required to maintain cleanliness
  - 1) Toothpaste, toothbrushes
  - 2) Face washing flannels
  - 3) Cleaning goods  
(wet tissues, dry shampoos, etc.)
2. Encourage elderly to wash and clean their hands and fingers  
(See page 8 Risk of food poisoning)
3. Secure and provide underwear including disposable types
4. Provide assistance for maintaining personal hygiene, for example the provision of dry partial baths  
(if hot water can be obtained)





## Risk of food poisoning

In shelters, where disaster victims sleep and eat in the same place, where uneaten food and waste cannot be adequately disposed of and where victims cannot wash their hands properly due to restriction on the use of water, the elderly face potential hygiene problem.

The elderly are particularly vulnerable because of their depressed digestive systems and compromised immune systems. There are concerns that, once an elderly evacuee gets food poisoning, diarrhea, vomiting and other symptoms, his/her fluid and electrolyte balance are easily disturbed, which can have serious consequences.

Therefore, prevention of food poisoning is essential.

### Assessment

#### 1. Presence of food poisoning symptoms

Presence of gastrointestinal symptoms such as nausea, vomiting, stomachache and diarrhea

#### 2. Evaluate the sanitary conditions of shelters

- 1) Observe the sanitary state of the living space
- 2) Observe garbage dumping areas and the method of disposal of uneaten meals



## Coping methods

### 1. Maintain food hygiene

- 1) Check the state of hygiene (time limit of consumption) of distributed meals and the place of storage
- 2) Separate eating and sleeping spaces
- 3) Set up segregated garbage disposal areas, e.g. separate foods and other garbage

### 2. Enforce disinfection of the hands

- 1) Enforce hand washing
- 2) When water cannot be obtained:  
Distribute disinfectants for hands and wet tissues
- 3) Place disinfectants for the hands near toilets

### 3. Provide education on food poisoning

Distribute leaflets and brochures describing the danger and preventive methods of food poisoning



## Decreased mobility

Elderly living in shelters suffer a decrease in activity caused by various mental and physical factors. The shelter environment often causes problems for the elderly who may have difficulties transferring the activities of their daily lives to a new setting. In addition, since there may be a delay in evacuation following disaster, the elderly may end up living in poor conditions such as in the aisles or doorways of shelters, further restricting activity.

After disasters, more elderly people complain about pain in their back or knees, however they are often unable to receive medical treatment or rehabilitative therapy. These factors decrease their ability to remain active and as a result, there is an increased risk of their becoming bedridden. To support the elderly, it is important to maintain their ADL/IADL and prevent them becoming bedridden which will affect their subsequent quality of life.

### Factors decreasing activity of elderly following disaster

- \* Decreased physical activity as an evacuee
- \* Loss of canes or other walking aids at the time of disaster
- \* Mental shock and a sense of helplessness because of their inability to restore activity
- \* Feeling hesitant or restraining themselves out of consideration for people around them  
(comparisons with war in the past, and feelings that such situations should be endured)

## Assessment

1. State of ADL and IADL, especially transfer/mobility, and any difficult situations encountered during a day
2. Disorders, symptoms, and functions of the bones, muscles or joints
3. Fractures or bruises caused by the disaster
4. Environment of the shelter



## Coping methods

1. Improve the environment of the shelters
  - 1) Improve the environment to allow movement with consideration for the risk of falls
  - 2) Identify elderly in need of support and secure special evacuation places for them
  - 3) Make contacts with medical, long-term care and welfare institutions, the administrative bodies or volunteer groups, and transfer elderly to appropriate institutions if necessary

2. Relieve pain/swelling

3. Use appropriate self-help devices/aids

1) Check whether self-help devices/aids were used prior to the disaster

2) Acquire and distribute self-help devices/aids where necessary



4. Prevent a decrease in physical activity

1) Encourage activity (including cooperation with neighboring evacuees)

2) Incorporate rehabilitative activity into daily life

3) Explain the benefits of activities such as walking/ exercise on health, and promote them

5. Prevent a decrease in mental activity

1) Encourage daily verbal communication

2) Be attentive and listen and accept their feelings

6. Request a consultation with physicians and rehabilitation staff

1) Request rehabilitative assessment

2) Carry out health counseling and rehabilitation making regular visits to elderly evacuees

3) Verify rehabilitation that can be performed in the evacuation environment and ensure its continuation



## Deterioration of health Condition

The elderly often suffer from deterioration in their overall health due to an insufficient intake of nutrition and water, mental and physical fatigue caused by the disaster, and the poor living environment of the shelter. Because of interruptions in use of medication and failure to receive medical treatment by primary or appropriate specialists, chronic diseases suffered before the disaster often get worse.

It is necessary to evaluate the health of the elderly and provide support to prevent the aggravation of chronic conditions.

### Assessment

1. Vital signs

2. ADL

Feeding, bladder and bowel movements (including assessment of excretions), physical movement, sleep state, etc.

3. Facial expression, vitality

4. Physical conditions (fatigability, shortness of breath, palpitation, gastric discomfort, malaise such as numbness of the limbs, and other symptoms)

5. Living environments

1) Air condition

2) Distances to washrooms and toilets

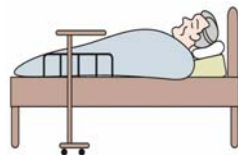
3) State of provision of everyday goods

4) Presence/absence of family members and supporters



## Coping methods

1. Secure and provide daily necessities
  - 1) Daily goods (such as blankets, portable body warmers, tatami mats and screen)
  - 2) Drugs and wet compresses, etc.
  
2. Assist in intake of nutrition and water (See page 2 Foods)
  
3. Evaluate and triage of elderly in need of support
  - 1) Identify elderly in need of support from visiting health professionals and volunteers
  - 2) When elderly evacuees in need of support are detected, contact should be made with medical, long-term care and welfare institutions, administrative bodies or volunteer groups for their transportation to appropriate institutions
  
4. Health consultations
  - 1) Health consultations may be required by specialist groups (physicians, nurses, public health nurses and rehabilitation staff members)
  - 2) Make case reports in each shelter to enable the continuous evaluation of the health of elderly evacuees



## 5. Continue medication and diet therapy

- 1) Produce medication and diet therapy lists and classify elderly into those in whom self-management of oral drug intake/self-injection is possible, confirmation is necessary, and self-management of oral drug intake/self-injection is impossible
- 2) When self-management of oral drug intake/self-injection is possible (including management by family members), enough drugs for several weeks should be given to enable self-management
- 3) In elderly in whom the self-management of oral drug intake/ self-injection is impossible, nurses or other staffs in charge of the shelter should confirm drug intake/ self-injection, regarding these individuals as high priority during rounds
- 4) When special diets are necessary in elderly with diseases such as diabetes mellitus or nephropathy, special food should be arranged. In addition, therapeutic diets should be requested from the ration center

## 6. Provide information

- 1) Enlighten elderly on disorders that often develop following disaster (such as economy class syndrome, shelter pneumonia and food poisoning)
- 2) Confirm the place of a temporary clinic, and its office days/hours, and distribute this information





## Development of respiratory infections

Because of communal living and inadequate ventilation in shelters, respiratory infections tend to spread. Elderly with decreases in resistance and reserve force to infection are easily infected by cold and influenza viruses, and readily develop shelter pneumonia, which may become serious.

It is, therefore, necessary to take preventive measures against respiratory infection, and to find and treat borderline pneumonia.

### Assessment



1. General condition: vital signs, cough, sputum, nasal discharge and fever

2. Observation of symptoms of influenza:

Fever relatively rapidly developed (above 38°C), headache, joint pain, muscle pain, sore throat, runny nose and cough

\* In the elderly, it is necessary to pay particular attention because symptoms may not be marked

3. Shelter environment: room temperature, humidity and ventilation

## Coping methods

1. Take measures to prevent colds and influenza
  - 1) Explain the necessity of gargling and disinfecting the hands, and encourage elderly evacuees to do these
  - 2) Use leaflets and brochures when necessary
  - 3) Obtain and provide necessary goods: mouth washes, disinfectants for hands and fingers, masks, etc.
  - 4) Maintain ventilation and humidity in the shelter
  - 5) Obtain and provide items providing heat when necessary (especially in winter)
  - 6) Obtain and administer vaccines when the spread of influenza is expected
  
2. When colds have developed
  - 1) Secure the environment allowing rest and heat retention
  - 2) Ensure sufficient water intake
  - 3) Provide meals with high nutritional values, which are easy to eat (See page 2 Foods)
  
3. When influenza has developed
  - 1) Antipyretics should be acquired and administered, and patients should be moved to a suitable medical institution as soon as possible
  - 2) When elderly patients return to their shelter following treatment, consider an emergency short-stay in a long-term care insurance institutions for elderly at risk of re-infection



## Mental health

It is difficult for the elderly to secure a living place by themselves within a shelter. While they repeatedly move within the shelter and endure a poor living environment, psychological stress sometimes manifests as physical symptoms. In addition, if elderly evacuees are inactive during the day, their ADL level tends to decrease, which can aggravate chronic disorders. PTSD (post-traumatic stress disorder) sometime develops in the elderly without being noticed, and elderly evacuees may suffer from continuous psychological disturbances such as a sense of helplessness and anxiety about their future without prospects for restoring their lives.

Therefore, it is very important to assess the mental state of elderly evacuees and attempt to maintain and improve their mental health.

### ◆ Assessment of psychological stress and anxiety about the future

1. Mental state (anxiety/fretting, irritation, anger, depressive tendency, etc.)
2. Sleep patterns (insomnia, feeling of sound sleep, difficulty in falling asleep, and waking after the onset of sleep)
3. Physical symptoms (increase in blood pressure, increase in glucose, and gastrointestinal symptoms such as nausea, vomiting, stomachache, hematemesis, and bloody feces due to acute gastric ulcer)
4. Living state (such as living environment in the shelter and personal relationships with surrounding people) and anxiety about the future

## ◆ Coping methods for psychological stress and anxiety

1. Arrange assessment by health care practitioner and clarify the mental state of elderly evacuees
2. Secure places that enable the elderly evacuee to be listened to without any time constraints, and listen attentively
3. In elderly with an unstable mental state, arrange a visit to or by a psychiatrist. If a prescription is required ensure that the physician's instructions for medication are noted and medication is properly managed
4. Identify factors associated with aggravation of the mental state, and adjust or intervene with these factors
5. Evaluate the area occupied by the elderly evacuee within the shelter, and consider setting up a private space or a change in place when necessary
6. Plan regular visits by mental health specialists and carry out mental support programs



## ● Assessment of sense of helplessness and symptoms of PTSD

\* More assessment should be performed in addition to assessment of psychological stress and anxiety about the future. Assess the elderly evacuees for

1. Mental activity and ADL in shelter life
2. Symptoms of PTSD (such as continuous crying when remembering the time of the disaster, insomnia and despondency)
3. Troubles and stress in personal relationships within the shelter

● **Coping methods for sense of helplessness  
and symptoms of PTSD**

1. When there are symptoms of PTSD, arrange for immediate visits to or by a psychiatrist or mental care specialist (such as a clinical psychologist, mental health nurse and counselor)
2. Communicate as much as possible, and strive to build up a feeling of mutual trust
3. Plan for group discussions where the elderly can talk to one another about life in the shelter in the presence of mental care specialists
4. Arrange for the establishment of a place of counseling by mental care specialists in the shelter



## Risk of developing delirium

In addition to mental and physical fatigue, an acute change in the living environment within the shelter may cause a transient brain dysfunction (such as mental agitation, unclear speech, sleep disorder and forgetfulness), the symptoms of which can be mistaken for dementia.

In elderly in the shelter, delirium can be differentiated from dementia using the following checklist. An accurate coping strategy is necessary.

### Points differentiating delirium from dementia

1. Presence of disorientation and forgetfulness
2. Acute onset of symptoms and marked symptoms particularly in the evening and night
3. Transient symptoms showing intra-day fluctuations
4. Acute changes in mental state and feelings
5. Inadequate sleep during night



## Coping methods

1. Secure places in the shelter where there is a clear distinction between the day and night, and where others are present nearby, allowing personal exchanges
2. Facilitate activity during the daytime (such as taking a walk around the shelter, light exercise, etc.)
3. Remove dangerous objects and carry out rounds of the shelter at night
4. Accept and take a gentle approach towards perplexed and disquieted states in the elderly
5. Make arrangements for visits to or by psychiatrists and give oral medication according to their instructions



## Exacerbation of dementia symptoms

Mental and physical fatigue, changes in the physical condition caused by the disasters and acute changes in the living environment can exacerbate symptoms of dementia and development of dementia in the elderly. Therefore, the elderly in a shelter should be carefully monitored.



### Assessment

1. Monitor physical functions: vital signs, dehydration, constipation, incontinence and pain
2. ADL
  - 1) Attention to and ability to concentrate on meals, refusal of food and overeating
  - 2) General toileting state, understanding of toileting methods and clean behavior
  - 3) Attention to cleanliness and grooming, and ability to clean themselves
  - 4) Spontaneous speech, expressions of will and personal exchanges
3. Cognitive function: memory disorder, disorientation, misjudgment
4. Behavioral disorder: hallucination, delusion, aimless wandering, unclean behavior, pica

## Coping methods

1. Establish a daily routine and a stable environment in the shelter
2. Assess the dementia and then determine whether it is possible for the elderly evacuee to live within the shelter or not
3. When shelter life is possible, caregivers should be secured, and instructed on points of dementia care

For example:

- (1) A gentle attitude should be taken to avoid confusion/perplexity
  - (2) Do not refuse or deny the verbal or physical actions of the elderly , and provide assistance with understanding and coping with difficult aspects of shelter life
  - (3) Make other evacuees understand the elderly through communication with them
4. When shelter life is impossible, arrangements should be made for an emergency short stay in a long-term care institution



## Isolation in terms of information

In addition to age-related hearing loss and decreased ability to communicate with other people caused by physical and mental fatigue or shock following the disaster, the elderly are often unable to obtain sufficient information.

Information aimed at assisting disaster victims in restoring their lives is sent to shelters from the government and other organizations. However, the elderly, particularly those living alone, often fail to receive such information, and, even if they do receive it, may not fully understand the contents. Therefore, elderly tend to be isolated in terms of information and procedures regarding restoration.

Ensure that the elderly are not isolated from this information.

### Coping methods

1. Support for accurate transmission of information to elderly
  - 1) Information should not only be posted on walls, but printed material should also be individually distributed and brochures written especially for the elderly
  - 2) Transmission of information to the elderly should be confirmed and their degree of understanding ascertained
2. Support should be provided for restoration procedures



## Problems surrounding transfer from the shelter

When the disaster scale is large and restoration is prolonged, it is difficult for the elderly to return to their former residence, necessitating the transfer to temporary housing. In the elderly who have difficulty in adapting to environmental changes, repeated changes in the place of living not only affects their physical and mental health but also disturbs any connections they have made with others. As a result, the elderly feel lonely and isolated.

When the elderly are relocated, attention should be paid to the following:

### Support for the views of the elderly about their living environment

1. Check the mental state and cognitive function of the elderly, and evaluate whether they can make their own decisions or not
2. When elderly can make their own decisions, their wishes for their future way of living should be summarized and carefully listed at their own pace
3. When elderly evacuees cannot make their own decisions, contact should be made with their family members, guardians and substitutes, and their future discussed

## Precautions for selecting a new place to live, including temporary housing

1. Evaluate their daily milieu before the disaster, and make an effort to secure a place for them to live (such as temporary housing) that is as close as possible
2. Select areas that allow a continuation of the use of medical institutions and social resources used before the disaster
3. Select areas that facilitate exchanges with relatives and friends, and prepare a communication network of mutual contacts



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