

B. Elder Response

The elderly population has a number of characteristics and concerns that make them particularly vulnerable to the effects of disasters. For example, the elderly may respond more slowly to calls for disaster relief due to age-related slowing of both cognitive and motor activity. Older adults suffer greater sensory impairment and illness requiring medication. Some older adults may experience trauma if they are transferred from one facility to another without advance notice.

The elderly are more vulnerable to illness resulting from extreme climatic changes such as hypothermia and hyperthermia. Older adults may need education about available services and how to go about applying for them. Education may also assist older adults in overcoming the stigma attached to using mental health services. Emergency food rations should be low in sodium to accommodate the many older adults with hypertension and since impairment in the senses of taste and smell often reduce the elderly person's willingness to eat adequate amounts of food. Minority elderly are especially vulnerable to the effects of disasters. Bilingual workers and workers sensitive to the cultural differences of these minority groups will help to maximize the efficient delivery of services. Finally, some older adults, aware of diminished capabilities, may fear that they will risk being placed in a nursing home if these losses become known to workers. Disaster relief workers must be especially sensitive to this very real concern of older persons.

Sensory Deprivation

Decline in smell sensitivity appears to be a common feature of aging (Stevens & Dadrwala, 1993; Wysocki & Gilber, 1988). Studies of older persons suggest that the elderly recognize and identify common odors less well and remember episodic presentations of odors poorly (William & Stevens, 1989).

Because the process of deterioration sets in early and progresses gradually, many elderly seem oblivious to any loss. For example, few adults older than 60 could detect the odor of propane at intensity levels commonly used as a warning (Bartoshuki & Weiffenbach, 1990). Sense of taste also declines and can contribute to poor nutrition in disasters (Chauhan et al. 1987).

Hearing impairment affects about 75% of the American population who reach the age of 80 years (Miller, 1983). Presbycusis, the hearing impairment most commonly associated with advancing years, affects a third of persons 65 and older (Naughton, 1965). Older adults may have greater difficulty in hearing, especially in noisy environments such as disaster centers (Harris & Reitz, 1985).

Delayed Response

The elderly may respond more slowly to calls for disaster relief, due to age-related slowing of both cognitive (Babins, 1987; Cohen, 1987; Cunningham, 1987) and motor activity (Haaland, Harrington, & Gice, 1993; Houx and Jolles, 1993; Welford, 1988). Reaction time will be decreased (Salthouse, 1993) and there may be difficulty comprehending radio or television broadcasts under difficult listening conditions, such as storm winds, sirens, etc. (Cohen, 1987; Thompson, 1987). They may walk more slowly to relief sites (Hinmann et al., 1988). In addition, they may drive more slowly to the relief center (Haaland, Harrington, & Gice, 1993; Hale, Meyerson, & Wagstaff, 1987; Welford, 1988) due in part to age-related impairment in nervous-system function (Taylor & Griffith, 1993). Distant visual function appears to play an important role in physical function, particularly for mobility. An intervention to improve vision in at-risk elderly might preserve function (Salive et al. 1994). Speed of movement may also be reduced (Houx & Jolles, 1993; Normand, Kerr, & Metivier, 1987). Medication may also impair psycho-motor ability (Hinrichs & Ghoneim, 1987).

Following the 1977 Kansas City flood known as the Plaza Flood, the number of persons coming into the centers had dropped considerably by the end, and normally it would have been time to close the centers, but, concerned that numbers of older persons that had come to centers were not at a level in proportion to those believed to have been affected, the Region VII Federal Emergency Management Agency kept one centrally located center open (Wilder, 1983). More than one-half of the older persons eventually served came to this one center.

Generational Differences

There are a number of generational differences in values and age roles (Rosenmayr, 1985; Stahmer, 1985). For example, older adults may give more attention to spiritual issues (Lesnoff-Caravaglia, 1985). They may be reluctant to accept low interest government loans to help with the losses resulting from a disaster (Reasoner, 1994). In bereavement, older adults show more consistent improvement in their levels of distress over time than do younger adults (Zisook et al. 1993). Communication difficulties, hearing loss, and generally cautious behavior are common among older adults (Cole & McConnaha, 1986).

Relief workers may relate better with elderly victims by being aware of some of these particular characteristics. If an older adult is particularly religious, the worker may elect to refer the person to a volunteer chaplain. Relief workers should attempt to establish whether the older person is understanding them, and if not, to determine whether this is the result of a hearing loss, cognitive impairment, anxiety or depression, medication, or a problem the worker has in communicating effectively with the particular older adult. Finally, the worker should avoid the temptation to rush the older person, recognizing that older adults may be more cautious and slow-moving.

Chronic Illness

Elderly suffer from a number of common ailments, including heart disease, cancer, stroke, arthritis, poor vision and hearing, depression, and dementia (Blackburn, 1988). Physical impairment, such as hearing- or vision-loss, increase an older adult's proneness to depression and anxiety (Kalayam et al., 1991; Oppgaard, Hanson, & Morgan, 1984). Pharmacy and physician services need to be available since many older adults will be on medications (Canadian Medical Association, 1993; Johnson & Moore, 1988), and may need supplies of medications, or medical advice to deal with what to do if medication run out (Joglekar, Mohanaruban, & Bayer, 1988; Stockton & Jones, 1993). Elderly, medicated during disasters, may need monitoring for medication side effects (Katz, Stoff et al., 1988; Rosen et al., 1993). Elderly, however, tend to de-emphasize the importance of self-care and overemphasize the importance of professional contact (Chappell, Strain, & Badger, 1988), and therefore will need to be guided or encouraged to self-monitor.

Transfer Trauma

Transfer trauma may exist when elderly are moved from one facility to another. Well-operated nursing homes prepare the patient with advance notice, move some personal possessions beforehand to the new location, and provide a great deal of personal attention. The effect of loss has also been found to be ameliorated by religious activity. To a lesser extent, older persons who have become disaster victims can suffer the same effect. For example, following a tornado in Sedalia, Missouri, an older person who had lost her home and most of her possessions was incapable of taking any action on her own behalf until her situation was sensitively probed and an "Irish Prayer" obtained to replace the old one. (A more detailed discussion of transfer trauma appears later in this manual.)

Memory Disorders

Elderly may have more difficulty in remembering and responding to disaster instructions since memory retrieval, recall and retention may be impaired. Depression associated with the effects of disaster may also impair memory. Individual differences in memory performance among elderly adults may be due, in part, to variability in personality and metamemory variables. If interviewed in disasters, they may have difficulty relating details in logical order, due to age-related impairment of temporal and spatial memory. When working with relatively healthy older adults, it is important first to consider possible transitory, nonmemory factors that might be contributing to memory problems, such as the effects of anxiety, stress, or sleep deprivation, and then to provide the clients with some perspective on their memory failures.

Multiple Loss Effects

As a consequence of aging processes elderly persons tend to experience multiple losses, including loss of physical/sexual attractiveness, hearing, sensory and motor skills, memory, spouse (Thompson et al., 1984), relationships (Kekich & Young, 1983; Pfeiffer, 1987), control over the environment (Lowy, 1987), work roles (George & Maddox, 1977), and independence (Martindale, 1989). For some, chronic illness may trigger the feeling of loss (Lindgren et al., 1992). Disaster relief workers need to be sensitive to signs of depression among elderly victims since losses sustained from the disaster may add to the previous ones and lead to depression (Goldstein, 1979).

Vulnerability to Hyper- and Hypo-thermia

The capacity of the central nervous system and body regulator apparatus to maintain the constant state of body temperature becomes less reliable after middle age (Exton-Smith, 1977). The elderly are at risk of hypothermia (Collins, 1988; Thomas, 1988; Watson, 1993) and hyperthermia (Kenney & Hodgson, 1987). Factors suggested to account for the high incidence of hypothermia in the elderly include abnormal temperature perception or regulation, intercurrent illness, social isolation, inadequate housing, and poverty (Thomas, 1988). Hypothermia may be exacerbated by use of certain medication, e.g. psychotropics (Kerr, 1989). Hyperthermia may be the result of heat waves, particularly in spring before seasonal adaptations to summer temperatures have taken place. In disasters power outages may result in loss of heat or air conditioning to homes and apartments, increasing the risk of hypothermia and hyperthermia.

Crime Victimization

While the rate of criminal victimization is less of a problem than advocates for the elderly have argued (Lindquist, & Duke, 1982), the elderly express high fear levels regarding criminal victimization. Fear of crime has been shown to correlate with rates of victimization, i.e. those elderly victimized in the past will be more fearful (Stafford & Galle, 1984). Fear of crime is also correlated with the crime rate of the individual's neighborhood, with residents of high-crime areas expressing more fear (Janson & Ryder, 1983). Fear of violent crime tends to be out of proportion to the real probability of falling victim to such a crime (Liaison, 1983). Fear tends to be related to neighborhood dissatisfaction and low morale, and to a lesser extent, involuntary isolation (Yin, 1982). The relationship between fear of crime and victimization is complex, although the fear of crime in high-risk areas seems to be realistic (Baldwin, 1992).

Groups of con artists who follow major disasters often focus their efforts on older disaster victims (Wagner, 1994; Wilder, 1983). Home repair is a common area where older adults are victimized. In a typical scheme, the con artists will sign many contracts for repair, do a little work on each, and move on with partial or total payment. Education at disaster centers about these con artists and the types of work they promise to do may help prevent many older adults from becoming further victimized during disasters.

Bureaucracy Unfamiliarity

Elderly tend to be separated from agencies and information systems due to lack of information (Salive et al., 1994). Further complicating this problem is that as many as 10 to 15 agencies may need to be contacted during disasters (Wagner, 1994). Greater imaginative design and coordinated operation of these information systems can better assist older adults in interfacing with agencies (Salive et al., 1994). Persons more likely to use community services tend to be better educated, more successful financially, more likely to derive personal satisfaction from their work, and more likely to have formed closer family ties (Rosenzweig, 1975). One useful intervention is the telephone hotline (Losee et al., 1988). Telephone hotline services are staffed with persons trained in communicating with persons during crisis and can make referrals to appropriate sources. These telephone hotline services interface with other appropriate agencies during disasters. Finally, continuing education experiences may better prepare elderly for disaster conditions (Panayotoff, 1993).

Welfare

Despite the widespread development of social services and their advocacy, researchers have consistently reported low use of support for older persons in general and in particular for rural elderly (Blieszner et al., 1987; Clark, 1982; Krout, 1992) and minority ethnic groups (Bell, Kasschau, & Zellman, 1978; John, 1986). Often older adults are unaware of available services or lack knowledge about them. Data also suggest that perceived stigma may be a barrier to participation (Hollonbeck & Ohls, 1984). Results indicate, however, that the older adults' attitudes toward stigma were statistically nonsignificant predictors of whether they would contact social security offices to inquire about their eligibility for SSI benefits (Ozawa, 1981). Education can help break through this stigma (Henry & McCallum, 1986; Peterson, Thornton, & Birren, 1986). For example, an older person sat weeping at a Disaster Assistance Center because he could not convince himself that he should apply for assistance when he knew that there were others who had greater needs (Wilder, 1983). He applied for assistance only after he was convinced by a relief worker that his receipt of assistance would not reduce the likelihood of others receiving it.

Mental Health

Elderly tend to have moderately high, negative attitudes and lack of knowledge concerning mental health services (Lundervold & Young, 1992). The highest negative attitudes/knowledge deficits were in the domains of knowledge of psychopathology and aging (68%); and stigma. Stigma often stops patients from getting the best treatment, or at times from getting any treatment at all (Dubin & Fink, 1992). In addition, many elderly may have unfavorable impressions of mental health services (Nelson & Barbaroi, 1985). Relief workers can assist by aiding elderly in goal setting and locating essential services (Bumagin & Hirn, 1990). Crisis counselors can assist elderly in grieving over disaster associated losses (Williams & Sturzl, 1990).

Education is an effective way to deal with the perceived stigma of mental health services (Fink & Tasman, 1992; Henry & McCallum, 1986; Peterson, Thornton, & Birren, 1986). At the initial stages of treatment, the focus should be on concrete issues (e.g. assistance with a Medicaid application) (Lustbader, 1990). As trust grows in the counselor-client relationship, the sessions tend to resemble more traditional individual, family, and group psychotherapy (Lustbader, 1990). Linking of mental health and physical health services can assist in removing the stigma of mental health services but may create financial problems (Mad Hatters Theater, 1992).

Special Dietary Considerations

Poor eating, due to age-related loss of interest in eating (Schiffman & Warwick, 1988) and disease processes may lead to malnutrition, yet absence of clear-cut signs and symptoms may easily lead to a delay in the diagnosis of these potentially serious yet easily reversible conditions (Gupta, Dworkin, & Gambert, 1988). Weight loss and anorexia occur commonly in the elderly (Morley & Silver, 1988). While in many cases the anorexia can be attributed to associated disease processes, it appears that a true anorexia of aging exists (Morley & Silver, 1988).

Because many elderly suffer from hypertension (Sowers, 1987), emergency rations should be low in sodium. Increasing dietary calcium intake may represent an effective nonpharmacologic treatment for some salt-sensitive persons (Zemel & Sowers, 1988). Similarly, diabetic elderly will have reduced sensitivity to high-sugar taste in emergency rations (Lassila, Sointu, Raiha, & Lehntonen, 1988). Impairment of the senses of taste and smell may reduce the elderly person's willingness to eat adequate amounts of food. This problem may be solved in part through preparation of tastier emergency rations (Schiffman & Warwick, 1988)

Minority Elderly

If the elderly are especially vulnerable to the effects of disasters, then minority elderly are perhaps the most vulnerable (Applegate et al, 1980). Minority groups may have different cultural and religious backgrounds, effecting the way they regard services and government agencies. Services delivered to the dominant society may not necessarily be suitable for every minority group. Language barriers pose a major impediment to the delivery of services to a number of minority groups. Disaster Assistance agencies, therefore, will need to have bilingual and bicultural workers to communicate and assure sensitivity to the needs of these minority elderly.

African American elderly are particularly vulnerable to the effects of disasters. For example, during the heat wave of 1980, most of the heat-related deaths were older adults who were also African American (Applegate et al. 1980). Still, most of the research on elderly African Americans' adaptation has focused little attention on how African Americans cope with disasters (Green & Siegler, 1984). The differences that African Americans display in coping and adaptation may, in fact, be differences in style and expression (Green et al., 1982). In one study, African American volunteers serving African American elderly committed more time and were seen as more helpful by clients (Morrow-Howell et al., 1990). Therefore, African American workers and volunteers need to be utilized by Disaster Assistance Centers.

Although some regional variations exist, the Asian American elderly underutilize available formal support systems (Pacific Asian Elderly Research Project, 1977). While many need services, a lack of English proficiency appears to prevent them from seeking services outside their ethnic communities (Kii, 1984). It is important, therefore, that Disaster Assistance Centers have bilingual and bicultural personnel where a large number of people speak these languages (Yip, 1981).

Language barriers also effect the delivery of services to Hispanic Americans. For example, the Needs Assessment Study (Lacayo, 1980) found that the neediest older Hispanic Americans were the lowest users of services. Even when they know about, need, and are eligible for social services, the Hispanic American elderly use services far less than the need warrants (Lacayo, 1980). Disaster Assistance Centers will need to have Spanish-speaking workers of Hispanic heritage in areas with large Hispanic populations.

Cultural sensitivity may be especially important in serving the Native American elderly during disasters. The existing service systems for this population fall short in satisfying needs since the services are being provided under the false assumption that the services delivered to the dominant society are also most suitable for the Native American population (National Indian Council on Aging, 1981). Native American workers may be able to identify the most appropriate services for Native American elderly during disasters.

Fear of Institutionalization

Few older adults move into nursing home voluntarily, and life in these institutions has been found to lead to psychological deterioration (Langer, 1985; Piper & Langer, 1986), and thus should only be considered in extreme cases. Hence, many older adults, aware of diminished capabilities, may fear that these losses, if revealed to persons and organizations seeking to provide help, would place them at risk of institutionalization. The move to a nursing home is often followed by decline or even death (Perlmutter & Hall, 1992). Deterioration may result from being thrust into a world whose total security often requires surrender of autonomy since nursing homes are often dominated by rules, regulations, and arbitrary schedules. The older adults' sense of control erodes. Therefore, older adults may realistically fear that, if placed in a nursing home, they will become psychologically and physically dependent on the staff and may eventually function in a mindless fashion. Disaster relief workers, therefore, should exercise great sensitivity when dealing with older adults and reassure them that they are there to provide services and not to place the older adult in a nursing home.

Conclusion

In conclusion, the elderly population presents special challenges to disaster relief workers. Older persons may respond more slowly to calls for disaster relief due to age-related slowing of both cognitive and motor activity. Some older adults may suffer trauma if they are transferred from one facility to another without advance notice. Because older adults are low users of social services, they may need education and encouragement from disaster relief workers in applying for them. The elderly may also need education to help overcome the stigma of using mental health services. Emergency food rations need to be low in sodium for the many older adults who suffer from hypertension, and tasty since decline in the senses of taste and smell often reduce older adults' willingness to eat appropriate amounts. Because minority elderly are even more vulnerable to the effects of disasters, the use of bilingual workers and workers sensitive to the cultural needs of these minority groups will help to maximize the delivery of services. Finally, some older adults, aware of diminished capabilities, may fear that they will risk being placed in a nursing home if these losses become known to workers. Disaster relief workers, therefore, should exercise special sensitivity to this very real (and realistic) concern of some older adults.

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