Obesity in Nursing Homes: A Critical Review

Christine Bradway, PhD, RN,* Joseph DiResta, MHSA,† Irene Fleshner, RN, MHSA,‡ and Rosemary C. Polomano, PhD, RN*§

Obesity is a significant, and increasing, health problem for older individuals, their caregivers, and healthcare professionals and delivery systems, yet few studies document how nursing homes have responded to this epidemic. To address these gaps, an extensive electronic search was conducted in the Cumulative Index of Nursing and Allied Health, MedLine, PubMed, and the Cochrane Library using key terms and phrases, including obesity, morbid obesity, obesity in elderly, long-term care, bariatric or weight loss surgery, nursing care, and nursing homes. Subsequent critical review suggests that research on obesity in older adults has predominantly been conducted in community-dwelling populations and that few investigations have elucidated this problem in nursing home (NH) residents. Research priorities are also proposed to fill the current void in studies of obese NH residents. J Am Geriatr Soc 56:1528–1535, 2008.

Key words: nursing home; long-term care; elderly; obesity; bariatric care

CLASSIFICATION OF OBESITY

Several classification systems define criteria for obesity in adults. The National Institutes of Health (NIH), National Heart, Lung, and Blood Pressure (NHLB), and the North American Association for the Study of Obesity (NAASO) have established the most commonly cited classification system.9 Derived from BMI, defined as body weight divided by the square of height measured in a unit of kg/m², these five categories include underweight, normal, overweight, obesity (Class I and II), and extreme obesity. Excessive weight is also characterized in terms of obesity (BMI = 35.0–39.9), morbid obesity (BMI ≥ 40.0), and superobesity (BMI ≥ 50.0).10 Although the NIH, NHLB, and NAASO system is widely used in practice and research, debate exists as to whether these categories are valid for older individuals.7 Because age-associated changes in height, weight, body fat, and lean muscle mass affect BMI, waist circumference or other indices of fat distribution may be more appropriate for defining obesity in elderly people.6,7,11 Alternate indices for delineating categories for obesity have not been adequately studied; thus, most studies still apply the NIH, NHLB, and NAASO BMI classification system used in the context of this discussion.

METHODS

An extensive electronic search was initially conducted in Cumulative Index of Nursing and Allied Health (CINAHL), MedLine, PubMed, and the Cochrane Library.
to retrieve research articles on obesity in older adults and residents of NH facilities. Key search terms and phrases alone and in combination were used: obesity, morbid obesity, obesity in elderly, long term care (LTC), bariatric or weight loss surgery, nursing care, and nursing homes. Search strategies were limited to publications in English and those pertaining to human adult participants between 1990 and 2007. Because results yielded a small number of studies (N = 7), search strategies were expanded to include case studies, review articles, commentaries, and editorials. In addition, relevant citations were manually extracted from the reference lists of these publications. Subsequently, another search was performed using combined keywords such as obesity and urinary incontinence; obesity, occupational injury, and LTC; bariatric surgery and elderly; and obesity, LTC care, and pain. This search identified primary research articles as well as case studies, review articles, commentaries, and editorials focused on specialized needs of obese elderly people in a variety of settings. These additional articles were used to increase understanding of these issues and support a discussion of future research and care needs for obese NH residents.

RESULTS

Results revealed a limited number of studies on the prevalence and significance of the growing obesity epidemic, \(^1\), comorbidities and complications, \(^12\) and treatment strategies. \(^15\) Although general information regarding obesity in older adults was identified, the predominance of research citations focused primarily on community-dwelling populations, indicating an obvious lack of investigations pertaining to obese residents in NH settings. Of the 1,222 citations using the search combination obesity and elderly, seven referenced NHs or subjects at risk of NH admission; only six were research studies (Table 1). Ninety-one articles

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample</th>
<th>Design</th>
<th>Methods</th>
<th>Main Findings</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myers et al.</td>
<td>N = 175 CNAs working ≥ 1 days for 18 months</td>
<td>Prospective cohort</td>
<td>Setting: 160-bed NH</td>
<td>Resident characteristics (including obesity) failed to predict injury risk.</td>
<td>Factors other than resident characteristics are more likely to predict staff injury.</td>
</tr>
<tr>
<td>Zizza et al.</td>
<td>N = 5,960 aged 45–74</td>
<td>Secondary analysis of NHANES data</td>
<td>Setting: Community-dwelling adults at risk of NH admission</td>
<td>Risk of NH admission greater for whites with a BMI ≥35.0. As weight increased, so did risk of NH admission.</td>
<td>More research is needed to examine the influence of race and ethnicity on NH admissions.</td>
</tr>
<tr>
<td>Zizza et al.</td>
<td>N = 6,746 adults aged ≥45</td>
<td>Secondary analysis of NHANES data</td>
<td>Setting: Community-dwelling adults at risk of NH admission</td>
<td>Subjects who maintained their weight had lowest rates of NH admission. Large weight gain increased risk of NH admission in overweight subjects.</td>
<td>For overweight individuals, preventing weight gain may delay functional decline.</td>
</tr>
<tr>
<td>Grabowski et al.</td>
<td>N = 5,899 new and existing NH residents (mean age 79.8)</td>
<td>Two-stage stratified probability design</td>
<td>Setting: National representative NHs</td>
<td>There was no higher likelihood of mortality for obese NH residents than for normal-weight NH residents. There was a positive association between obesity and mortality for very obese subjects (BMI ≥40.0).</td>
<td>Mortality for very obese people significantly increased during initial admission period. Value of weight loss interventions for obese NH residents is unclear.</td>
</tr>
<tr>
<td>Lapane and Resnik</td>
<td>N = 847, 601 newly admitted NH residents from 5 states (1992–2002) and 1,448,046 new residents (2002); age varied, &gt; 60% female</td>
<td>Cross-sectional, use of MDS data (1998–2002)</td>
<td>Setting: U.S. NHs</td>
<td>Prevalence of obesity in NH residents increased from 1992–2002. A disproportionate number of subjects were non-Hispanic black. Obese residents were more likely to have comorbidities.</td>
<td>The increasing prevalence of obesity raises concerns about NH access and preparedness.</td>
</tr>
<tr>
<td>Valiyeva et al.</td>
<td>N = not specified, community-dwelling adults aged 45–74</td>
<td>Analysis of longitudinal data from NHANES</td>
<td>Setting: Adults traced through NHANES and at risk of NH admission</td>
<td>Lifestyle factors (except total cholesterol) were associated with risk of NH admission. Obesity was a risk factor for NH admission for people aged 65–74.</td>
<td>Lifestyle factors, including obesity, are important contributors to risk of NH admission.</td>
</tr>
</tbody>
</table>

CNA = certified nursing assistant; NH = nursing home; NHANES = National Health and Nutrition Examination Survey; NHAPS = National Health Examination Follow-up Study; BMI = body mass index; MDS = Minimum Data Set.
on obesity and LTC were identified; only three articles addressed this growing problem for obese NH elderly people and elucidated several challenges associated specifically with the care of this population (Table 2).

Epidemiology
Prevalence rates of obesity in noninstitutionalized, U.S. older adults are reported to be as high as 40.4% for those with a BMI less than 25.0, 39.3% for overweight (BMI of 25.0–29.9), and 20.3% for obese (BMI ≥30.0).18 Moreover, a recent study of noninstitutionalized elderly Americans suggested that the prevalence of obesity in this population is expected to rise, along with healthcare expenditures, posing new challenges for NH care.1 Despite these projections, there is still a significant void in estimates of obese populations currently residing in NHs, the nature of their health problems, and how excessive weight complicates nursing and medical care.

A recent study8 included a cross-sectional analysis of 126,025 NHs in Kansas, Maine, Mississippi, New York, and South Dakota from 1992 to 2002 and an additional 16,110 U.S. NHs in 2002. Using demographic and health data from the Minimum Data Set (MDS), these investigators examined trends in the prevalence of obesity according to facility and geographic location and characterized the obese NH populations. BMIs were calculated for newly admitted NH residents using valid MDS records for height and weight. Data from residents with a BMI between 35.0 and 39.9 (class II obesity) and 40.0 and greater (class III obesity) were collapsed into one category; additional categories analyzed included underweight (<18.5), normal weight (20.0–24.9), overweight (25.0–29.9), and class I obesity (30.0–34.9). Between 1992 and 2002, the percentage of newly admitted obese NH residents increased from 15% to more than 25%. Almost one-third of those with a BMI of 35.0 or greater were younger than 65, 77% were female, and a disproportionate number (13.4%) were non-Hispanic black individuals. Considerable variation was noted in the prevalence of obesity across NH facilities (N = 1,448,046) and according to state for 2002 (Figure 1).

This hallmark study drew attention to the disproportionate numbers of obese NH residents (ranging from 0% to >40%) and the challenges of identifying obese populations when valid information on height and weight are not always documented on newly admitted NH residents. Furthermore, it is likely that these findings underscore the need for greater access to NH care for obese elderly people, as well as the need for adequate facility and staff preparedness.

Risk for NH Placement
Evidence suggests that obesity increases the relative risk of NH admission for adults.19–21 Data from the National Health and Nutrition Examination Survey (NHANES) National Health Examination Follow-up Study (NHEFS) combined with lifestyle factors including smoking, inactivity, high blood cholesterol, high blood pressure, diabetes mellitus, and obesity (BMI ≥30.0) were examined in two groups of community-dwelling adults aged 45 to 64 and 65 to 74.21 Approximately 18% of the individuals in each group were obese. Multivariate Cox regression models were constructed to estimate the relative risk of NH admission for each lifestyle risk factor by controlling for all other risks. For both groups, obesity was associated with a higher risk of NH admission, although the association was significant only for those aged 65 to 74 (odds ratio 2.0) and the challenges of identifying obese populations when valid information on height and weight are not always documented on newly admitted NH residents. Furthermore, it is likely that these findings underscore the need for greater access to NH care for obese elderly people, as well as the need for adequate facility and staff preparedness.

Table 2. Case Study, Review, and Expert Opinion Articles Focused on Obesity and Nursing Home Elderly

<table>
<thead>
<tr>
<th>Source</th>
<th>Focus</th>
<th>Topics Addressed</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotkoff35</td>
<td>Case study (N = 1) to illustrate nursing care needs</td>
<td>Skin care, resident monitoring, rehabilitative care, quality of life, staff injury</td>
<td>Design specialty units within the NH facility. Have a team approach to comprehensive care.</td>
</tr>
<tr>
<td>Dimant36</td>
<td>Comprehensive review of components of bariatric programs in NHs</td>
<td>Financial considerations, equipment and resources, admission and discharge issues, nursing and medical care, mental health care, rehabilitation, staff training, quality of care</td>
<td>A greater prevalence of obesity increases need for NH care. Multifaceted care and an interdisciplinary approach is required for optimal care.</td>
</tr>
<tr>
<td>Gallagher32</td>
<td>Strategies to reduce or prevent caregiver injury and promote patient safety</td>
<td>Obesity and aging, injury prevention, skin care and pressure ulcer prevention, environmental modifications, equipment and resources, lift teams, policy changes</td>
<td>Provide extra working space for caregivers. Modify environment. Consider alternate furniture. Use interdisciplinary team to recommend proper equipment. Consider consultation with ergonomics team. Develop a “lift team.” Implement policy changes to meet special needs of obese residents.</td>
</tr>
</tbody>
</table>

NH = nursing home.
Mortality

The association between mortality and obesity is complex for community-dwelling and institutionalized elderly people.7,22 Several studies have assessed the relative contribution of obesity to causes of mortality in community-living older adults.23-25 but research on NH residents is limited. A recent study using data from a national survey conducted by the Agency for Healthcare Quality and Research identified obesity as a major contributor to mortality in a representative sample of elderly NH residents.22 Medical records were used to calculate BMI and establish weight categories for residents: thin (BMI < 19.0; n = 1,131), normal (BMI = 19.0–27.9; n = 3,503), or obese (BMI ≥ 28.0; n = 1,265). Very obese people were also included in the analyses, which grouped those with a BMI of 35.0 or greater (n = 520) and a BMI of 40.0 or greater (n = 384). Compared with the normal-weight group, there was a statistically significant positive association between obesity and mortality in the very obese people, more specifically those with a BMI of 40.0 or greater (OR = 2.30, 95% CI = 1.28–4.11). Furthermore, a higher BMI was a predictor for mortality, particularly in the early period post-NH admission.22

A major strength of this study was the extremely large sample size, although the small subset of individuals with a BMI of 40.0 or greater most at risk could be considered a limitation. Furthermore, a more fully explained prediction model might have been possible if researchers had been able to control for cigarette smoking as an important confounder of greater mortality.

Morbidity

A growing number of publications document myriad adverse health outcomes in older obese adults (mostly for community-dwellers),14,26-29 such as osteoarthritis of the knee, diabetes mellitus, metabolic syndrome, hypertension, atypical or unusual pressure ulcers, skin infections and breakdown, increased abdominal pressure, and urinary and fecal incontinence.4,12,14,30–33 It is conceivable that similar comorbid conditions exist for NH residents, but limited surveillance of this population has been done. One study34 evaluated 152 NH residents and 160 community-dwelling older adults and reported that obesity is associated with poorer quality of life and physical and cognitive deficits. The role of concomitant diseases appeared to be more prominent for NH residents than for the community-living sample. Several recent reviews have also documented the negative consequences of obesity, such as functional decline and serious health problems that significantly complicate care.4,15,28,35,36 Not only are medical treatment regimens complex, but obese residents are also at high risk for problems, including lower extremity cellulitis, impaired hygiene, skin breakdown, continence and containment problems, impaired function, increased dependency, and poor quality of life.35,36

Considerations for NH Staff

Despite the rapid increase in numbers of obese residents in NHs, little is known about the effect on healthcare providers and financial expenditures for resources and environmental modifications to accommodate these residents. There is a paucity of empirical evidence focused on NH staff injuries, appropriate environmental adaptations, and equipment necessary for delivering optimal care to obese NH residents. Injuries among NH staff are a major concern, but in a prospective study,37 physical characteristics of NH residents, including obesity, had no effect on work-related shoulder and back injuries for nursing assistants (NAs) providing direct care. Over a period of 18 months, 32 back and nine shoulder injuries occurred in 175 NAs, but obesity alone did not contribute to occupational risk of injury (obesity; OR = 1.01, 95% CI = 0.80–1.28). Factors other than resident characteristics, such as work organizational issues, were believed to exert greater influence on work-related back and shoulder problems.

Nevertheless, anecdotal evidence reflects some degree of concern among NH staff that they may be subjected to work-related injuries with certain patient care activities (e.g., turning, lifting), and as a result, staff may be reluctant to provide basic care.32 Several reviews describe injury-prevention programs as a means of avoiding or reducing staff and resident injuries and ensuring a safe work and care environment.32,35,38 These typically include staff training on proper body mechanics and ergonomics, facility redesign, and acquisition of proper equipment for bariatric care to create a more accepting and dignified environment. Additional staff, flexible resident assignments, and scheduled timing of resident care are often needed to turn, position, lift, and transfer residents and perform physical care.
Although many acute care facilities across the country employ lift programs or teams to safely mobilize patients and reduce staff injuries, limited data exist to document the effects of these strategies on staff injury reduction in NHs. Emphasis on an interdisciplinary team to identify and make appropriate equipment recommendations and provide staff training was noted, as well as consultation with ergonomics experts, forming “lift teams,” and implementing policy changes to meet care demands.32,35

Adapting the Environment

There are no data-based publications to demonstrate how changes to the physical environment result in safer and more-efficient care, although recommendations have been proposed. These include provisions for extra space so that staff can work around the resident; larger doors, bathrooms, and hallways for easier access; and equipment. Support bars and toilets are needed to support excessive weight, along with elimination of rolling furniture unable to support the stress of additional weight during transfers and ambulation and tables and seating able to accommodate obese residents. Equipment that cannot support excessive weight, such as wall-mounted commodes with weight limits up to 280 pounds, must be replaced.32,36 No studies have reported the financial effect of adapting NH environments to accommodate the special needs of obese residents.

Equipment and Supplies

Several review articles have outlined specific equipment and supplies appropriate to programs of care for bariatric and morbidly obese individuals in acute and NH settings.36,39 These include bariatric beds; tilt beds; reinforced bed trapezes; bariatric bedside lifts; reinforced toilets; and wider examination tables, recliners, shower chairs, wheel chairs, and walkers. Given that all bariatric patients are at risk for pressure ulcers, lifts and pressure-reducing mattresses and devices are necessary.36 General nursing care for bariatric patients also requires appropriately sized blood pressure cuffs, scales if bariatric lifts or beds do not have the capacity for obtaining weights, continuous positive airway pressure and bilevel positive airway pressure equipment, and pulse oximetry.

Because no published evidence-based guidelines exist for equipment and assistive devices for obese NH residents, a commonsense approach follows principles of “good” gerontological care. For example, if patients perceive equipment to be inadequate, it may lead to a fear of walking or decreased mobility or fear of injury to self or caregiver.32 NH residents may consequently further limit activities and be reluctant to engage in physical therapy, which leads to further immobilization and risk of complications associated with immobility.

CARE OF OBESE NH RESIDENTS

Guidelines have been proposed to evaluate and manage obese, elderly NH populations.40–42 For example, a recent review detailed the essential elements of history taking, physical examination, laboratory evaluation, and treatment strategies for obese older adults receiving care in an outpatient setting.40 Recommendations included initiating assessment and treatment if the provider determines that weight loss would positively affect the patient’s quality of life, establishing reasonable weight loss goals, building lean body mass along with weight loss, and instituting a low-glycemic diet from healthy food sources. Attention must be paid to drugs that promote weight gain such as antidepressants, corticosteroids, and beta-adrenergic blockers. Risks and benefits of weight reduction and guidelines for programs and goals for elderly people, as well as distinctions between negative effects of unintentional and intentional weight loss must be considered.41 Aggressive weight loss programs for elderly people must be cautiously balanced with safety concerns.20 The feasibility of achieving goals of weight reduction for older adults and the complexity of physiological and psychosocial factors that complicate the success of weight loss interventions must be considered.

Data are insufficient to justify the safety of weight loss medications for older adults currently approved by the Food and Drug Administration.42 No clinical trials were identified on the efficacy and safety of pharmacological treatments for obese NH residents. Drugs such as amphetamines, sibutramine, and orlistat have been studied extensively in young and middle-aged adults, but adverse effects and interactions with several other medications probably preclude their use in older adults.43

Despite an increase in the use of bariatric surgical procedures44 and growing interest in expanding surgical interventions to older individuals,1,16,17 limited information is available on the appropriateness of this treatment for overweight older NH residents. It is suggested that age alone should not be a deterrent to bariatric surgeries,40 but this may not apply to obese older adults in NH facilities, who might not be acceptable candidates because of the presence of significant comorbidities and level of disability. Just how many obese NH residents are awaiting bariatric surgery remains unknown, and anticipated problems with recovery and the need for more-intensive postsurgical care may disqualify them for these procedures.

DISCUSSION

Based on a critical evaluation of research on obesity in NH residents, it is apparent that many gaps exist with regard to this growing problem. With the proportion of obese NH residents rising from less than 15% in 1992 to more than 25% in 2002, based on a multistate study, NHs are and will continue to be an important sector of the healthcare system providing care for these individuals.8 Moreover, it is projected that the prevalence of obesity among all adults aged 60 and older is likely to reach 37.4% by 2010;1 thus, it is likely that more older adults with obesity will require NH care in the future. A striking finding is that obese 70-year-olds have approximately the same life expectancy as normal-weight individuals but will incur more than $39,000 in additional healthcare costs.45

Equally troubling are the escalating numbers of older individuals opting for weight loss surgery who may then require a NH stay as part of their extended recovery. Data compiled from the University HealthSystem Consortium show that, of the 47,936 bariatric surgical procedures performed at 99 academic medical centers, 78 centers performed surgery on 1,339 (2.7%) adults aged 60 and older.44 Older age is associated with higher complication rates and
longer hospital stays with bariatric procedures, although precise estimates of delayed complications are limited. Patients who do not participate in follow-up care may be different from those who do, limiting conclusions about long-term effects and disposition of patients. A recent study assessed healthcare utilization and outcomes with bariatric surgery in 2,922 nonelderly patients, although the number of patients requiring NH care, if any, was not reported. It is conceivable that complication rates may be higher in older adults. Although reimbursement is a major impediment for consideration of weight loss surgery by older adults, it is still possible for them to seek this treatment. Older adults tend to lose less weight than younger adults, but evidence shows that bariatric surgery for older adults reduces the need for medications to manage comorbid conditions.

A limited number of studies have drawn attention to the tremendously important issue of obesity in NH residents. Given the scarcity of research, future investigations must attend to the significant gaps in knowledge if NHs are to face the growing challenges of caring for this population. Five major areas for further investigation are proposed.

First, better epidemiological surveillance studies are needed to capture the proportions of NH admissions of younger and older adults who are obese. A current estimate from one large-scale study places the incidence of obese admissions at approximately 3.1% of residents weighing 250 pounds or greater. More data are needed to describe the demographic characteristics of the obese NH population. Consensus regarding valid criteria for classifying obesity in elderly NH residents (such as the NIH, NHLB, and NAASO system) must also be reached to define obesity consistently across studies. In addition, more data are needed to establish patient profiles, including age, sex, race, reason for admission, and comorbid conditions, all of which have been previously reported in only a few studies. The epidemiology of obesity in NH facilities should be determined geographically so that burdens of care for this population can be segmented according to state and regional areas.

Second, there is a compelling need for health services research to examine staffing requirements in NH settings and manpower resources. Little is known about staffing ratios and whether more nursing staff are needed to provide safe, optimal care in NH facilities with higher proportions of obese residents. Some outstanding questions have not been addressed in the literature. Will it be necessary for NHs to expand their workforce to employ additional healthcare professionals in specialty areas such as physical therapy, nutritional science, and professional education? Will new positions be created in NHs for skin and wound care? Will new positions be created in NHs to expand their workforce to employ additional healthcare professionals, ergonomics specialists, or environmental specialists? If so, what are the economic ramifications? Another critical question relates to expenditures associated with environmental modifications and acquisition of new equipment and supplies to accommodate excessive weight. The cost incurred with care of obese patients in the hospital has been briefly explored, along with resource utilization relative to BMI and comorbid conditions. Not surprisingly, strong associations exist between higher BMI and greater consumption of healthcare resources for inpatient hospitalization and outpatient care. Much more health service research is needed to capture the financial implications of caring for obese people in NH facilities and to underscore the effect of obesity for reimbursement policy.

Third, with limited data on occurrences and the nature of work-related injuries sustained in the care of obese NH residents, systematic tracking and reporting of these events should be part of all injury-prevention programs. Statistics from the past decade indicate that the rate of injury among NH workers rose 57% from 1980. In a study of 445 NHs across three states, total nursing hours per resident day were significantly correlated with worker injury rates, translating into a 16% reduction in injury rates for every additional hour of nursing care. Authors acknowledged the limitations of their data source, the Medicare Online Survey, Certification and Reporting, given inconsistencies between centralized staffing reporting and payroll records at facilities. Some injuries may have been missed, because care was sought from regular healthcare providers, and there was difficulty differentiating work hours versus nonpaid work time. Facility- and system-level data for staffing patterns and work injury definitions were believed to be consistent across sites.

“Best practices” for the prevention of musculoskeletal injury (e.g., mechanical lifts, lift teams, staff training) have profound effects on decreasing staff injuries. In a study of six NH facilities, an initial investment of $158,556 for lift equipment and staff training was recovered in less than 3 years through a cost savings of $55,000 annually in workers’ compensation. Furthermore, claims costs associated with staff injuries were 68% lower on an extended care unit in a community hospital with ceiling lifts than on an extended care unit in the same hospital where these devices were unavailable.

Fourth, additional research is necessary to learn more about potential discrimination and bias that could affect care of obese individuals. A recent literature review examined attitudes of nurses toward obese patients. Overall, studies are limited and suggest that a high proportion of nurses hold negative attitudes, beliefs, and stereotypes regarding obese patients. Others have studied the perceptions of bariatric surgery patients regarding the degree of perceived support during the perioperative period. Overall, respondents questioned the attitudes of physicians and staff, but most indicated that healthcare professionals and staff were very or somewhat supportive. Major complaints were related to the environment and lack of appropriate equipment to accommodate body size. The increase in NH admissions for obese older adults, as well as younger persons, will create change in NH demographics. Therefore, it is essential to assess staff attitudes and, if needed, conduct sensitivity training to promote more-positive perceptions of and behaviors toward obese residents.

Last and most importantly, more data are needed on obesity-related resident outcomes in NHs, including care requirements, complications and adverse outcomes associated with obesity, and effects of interventions for treating obesity. Although there is emerging attention being paid to pain in older NH residents, the ways in which pain contributes to obesity, a result of obesity, and influences mobility are poorly understood. Fall rates among obese NH
residents have also not been consistently reported. The benefits of weight loss programs for NH residents is another opportunity for research. Uncertainty exists as to whether it is more beneficial to focus on mobility and nursing care issues than on intensive weight loss. Optimal candidates for weight reduction must be identified and specific methods tested to determine those that are most effective.

In summary, the results of a critical review of research and related articles pertaining to obesity in NH facilities demonstrate an emerging focus on this topic, but research has not kept pace with the dramatic increase in obese NH residents. The lack of evidence-based guidelines and “best practices” to direct care for this population limits the standardization of practice protocols and, ultimately, quality of care.

Given that the NH populations is predicted to increase by approximately 10% to 25% in the next decade (from rising rates of disability that might be attributed to obesity in younger adults), NH facilities may be ill prepared to care for these residents.

ACKNOWLEDGMENTS

The authors acknowledge Ms. Lorna McGonigal, who provided support in preparation of the manuscript, and Dr. Neville Strumpf, for her expert guidance and mentorship of Drs. Bradway and Polomano.

Conflict of Interest: The editor in chief has reviewed the conflict of interest checklist provided by the authors and has determined that the authors have no financial or any other kind of personal conflicts with this manuscript. We are grateful for the support of the John A. Hartford Foundation Building Academic Geriatric Nursing Capacity Claire M. Fagin Fellowship Award (2005–2007; Dr. Bradway). When this manuscript was written, Mr. DiResta’s salary was supported by the Genesis Health Care Corporation. Ms. Fleshner’s salary is supported by the Genesis Health Care Corporation.

Author Contributions: CB and RP: concept and design, acquisition and interpretation of data, drafting of manuscript, review and revision of manuscript. JD: concept and design, acquisition of data, drafting of manuscript. IF: concept and design, review and revising of manuscript. All authors contributed to and approved the final version of the manuscript.

Sponsor’s Role: The John A. Hartford Foundation had no role in the preparation or writing of this manuscript.

REFERENCES


