



“From First Feed to Healthy Aging: Community Nursing Approaches to Obesity Prevention Across the Lifespan”

Alka Shiv¹, Dr. Nitin Chicholkar²

¹PhD Research Scholar, ²Research Supervisor

^{1,2}Index Nursing College,

Malwanchal University, Indore

Date of Publication: 23/03/2025

DOI 10.5281/zenodo.22993921

Abstract: Obesity is a complex, chronic and multifactorial public health problem influenced by dietary patterns, physical inactivity, sleep, psychosocial factors, socioeconomic conditions, family practices, commercial influences and the physical environment. Because many determinants of excess weight develop outside hospitals and clinics, community-based prevention is particularly important. Community nurses are strategically positioned to contribute to obesity prevention because of their sustained contact with individuals, families, schools, workplaces, primary healthcare services and community organizations. Their role extends beyond individual health education to include early identification of risk, behaviour-change counselling, family empowerment, community mobilisation, interprofessional collaboration, environmental advocacy and continuity of preventive care. This narrative review examines community nursing approaches to obesity prevention across major stages of the life course, including pregnancy, infancy, early childhood, school age, adolescence, adulthood, pregnancy-related weight management and older adulthood. Evidence indicates that interventions combining nutrition, physical activity, sedentary-behaviour reduction, sleep promotion and behavioural strategies are more consistent with the multifactorial nature of obesity than isolated educational approaches. Family involvement is particularly important during childhood, while schools and community settings provide opportunities for population-level prevention. Among adults, nurse-delivered behavioural interventions can support dietary modification, physical activity, self-monitoring, goal setting and maintenance of healthy behaviours. For older adults, prevention requires special attention to functional ability, muscle preservation, nutritional adequacy and avoidance of excessive sedentary behaviour rather than weight reduction alone. Community nursing programmes should also address social and environmental determinants, health inequities and weight stigma. A life-course approach therefore requires prevention to begin early, continue through developmental transitions and remain sensitive to changing physiological, social and environmental needs. Community nurses can serve as educators, counsellors, care coordinators, advocates, researchers and community leaders within integrated obesity-prevention strategies.

Keywords: obesity prevention; community nursing; public health nursing; life-course approach; health promotion; childhood obesity; adolescent obesity; adult obesity; older adults; lifestyle modification; physical activity; nutrition; family-centred care; community-based intervention.

Introduction

Obesity has emerged as one of the most important challenges in contemporary public health. It is not simply the consequence of individual food choices or inadequate exercise; rather, it develops through interactions among biological, behavioural, social, economic and environmental factors. The World Health Organization describes overweight and obesity as abnormal or excessive fat accumulation that may impair health and identifies obesity as a major risk factor for several noncommunicable diseases, including cardiovascular disease, type 2 diabetes, musculoskeletal disorders and certain cancers [1]. The global increase in obesity has occurred alongside changes in food environments, urbanization, sedentary lifestyles, transportation patterns, work practices and recreational behaviour [1].

Obesity prevention is therefore most effective when considered across the life course rather than as an intervention directed only at adults who already have obesity. Eating habits, physical activity patterns, sleep behaviours and family routines develop during early life and may persist into later childhood and adulthood. Consequently, opportunities for prevention exist before birth, during infancy, childhood, adolescence, adulthood and older age. Community nursing is particularly relevant to this approach because nurses frequently interact with people during multiple stages of life and in diverse settings, including homes, schools, community health centres, workplaces, maternal and child health services and primary healthcare facilities.

A community nurse can contribute to obesity prevention through health assessment, nutrition education, physical-activity promotion, behavioural counselling, family support, screening,



referral, follow-up and community mobilisation. However, contemporary community nursing should move beyond the traditional model of simply providing information. Effective obesity prevention requires nurses to understand the social context in which individuals make health-related decisions and to collaborate with families, teachers, dietitians, physicians, physical-activity professionals, local organizations and policymakers. Community interventions that combine multiple levels of action may address individual behaviour while simultaneously modifying social and environmental conditions [2,3].

Obesity Prevention Through a Life-Course Perspective

A life-course perspective recognises that health behaviours and disease risks accumulate over time. The prevention of obesity in adulthood cannot be separated from experiences during childhood, and childhood prevention cannot be separated from parental practices, pregnancy, household food environments and socioeconomic circumstances. Community nurses can use this perspective to identify periods when preventive interventions may have particular relevance.

Obesity prevention should also distinguish between universal prevention, selective prevention and indicated interventions. Universal strategies target entire populations regardless of individual risk, such as community campaigns promoting healthy food choices and active transportation. Selective strategies focus on groups with increased risk, such as children with family histories of obesity or communities experiencing food insecurity. Indicated interventions are directed towards individuals who already demonstrate excessive weight gain or obesity-related risk factors. Combining these approaches allows community nursing services to support population health while providing additional assistance to people who need more intensive intervention.

An important principle is that obesity prevention should not become synonymous with weight stigma. Community nurses should use respectful, person-centred language and emphasise health, function, nutrition, physical activity and wellbeing rather than blame or appearance. Weight-related stigma may discourage people from accessing healthcare and can negatively affect psychological wellbeing. Prevention programmes should therefore create supportive environments in which healthy behaviour is promoted without discrimination.

Community Nursing During Pregnancy: Beginning Prevention Before Birth

Pregnancy provides an important opportunity to establish healthy behaviours that may influence both maternal and child health. Excessive gestational weight gain is associated with adverse maternal and infant outcomes, while maternal lifestyle patterns can influence the child's early nutritional environment. Community nurses, midwives and other maternal-health professionals can integrate obesity-prevention counselling into antenatal care by discussing balanced nutrition, appropriate physical activity, sleep, emotional wellbeing and healthy weight gain.

Lifestyle interventions during pregnancy commonly combine dietary advice and physical activity, sometimes supported by behavioural counselling. A meta-review of systematic reviews found that lifestyle interventions can influence gestational weight gain among women with overweight or obesity, although effects vary according to intervention characteristics and population [4]. A systematic review and evidence report conducted for the US Preventive Services Task Force also demonstrated that counselling and behavioural interventions can affect gestational weight-related outcomes, although evidence varies for different maternal and neonatal outcomes [5].

Community nurses can provide practical counselling rather than general instructions. For example, antenatal education can address meal planning using locally available foods, portion awareness, healthy snacks, safe physical activity and the reduction of sugar-sweetened beverages. Nurses can also identify barriers such as financial limitations, lack of family support, unsafe neighbourhoods or excessive workload. Referral to dietitians and obstetric services should be provided when additional nutritional or medical assessment is necessary.

Importantly, pregnancy should not be treated as a period for inappropriate dieting or intentional weight loss without clinical indication. The nursing objective is healthy gestational weight gain, adequate nutrition and appropriate activity. Family involvement is also valuable because household members frequently influence food purchasing, meal preparation and physical activity.

Infancy and the First Years of Life: Establishing Healthy Foundations

The first years of life represent a critical period for developing eating, sleeping and activity patterns. Community nurses involved in postnatal care, immunisation services, home visits and child health clinics can incorporate obesity prevention into routine developmental surveillance. This does not require turning every child-health encounter into a weight-management consultation.



Instead, prevention can be integrated into normal discussions about feeding, growth, sleep, play and family routines.

Breastfeeding support is an important component of maternal and infant health promotion. Nurses can provide evidence-based breastfeeding guidance while avoiding guilt-based messages for mothers who cannot or choose not to breastfeed. Complementary feeding education should emphasise age-appropriate foods, dietary diversity, responsive feeding and recognition of hunger and satiety cues. Responsive feeding involves caregivers recognising and appropriately responding to infant signals rather than encouraging feeding beyond the child's cues. Barriers and facilitators influencing responsive feeding should be considered when developing community interventions [6].

Physical activity in early childhood should be age appropriate and primarily play based. WHO guidance for children younger than five years emphasises the importance of physical activity, reduced sedentary behaviour and adequate sleep as interconnected components of a healthy 24-hour day [7]. Community nurses can educate parents about active play, limiting prolonged sedentary periods and establishing consistent sleep routines.

Early-childhood interventions also need to recognise the central role of caregivers. A systematic review of interventions for children up to five years found that family involvement, particularly interventions combining parental support with dietary and physical-activity changes, was common among programmes demonstrating improvements in obesity-related outcomes [8]. Thus, nurses should work with caregivers rather than placing responsibility for obesity prevention on young children.

Early Childhood: Family-Centred Community Prevention

During preschool years, children become increasingly exposed to childcare environments, community activities and family eating patterns. Community nurses can collaborate with parents, preschool educators and local health services to create consistent messages regarding healthy food, active play, screen exposure and sleep.

Family-centred education should focus on practical behaviour change. Nurses can encourage families to establish regular meal patterns, provide fruits and vegetables, limit frequent consumption of energy-dense foods and beverages, encourage water as a routine beverage and create opportunities for active play. Screen use can be addressed as part of a broader sedentary-behaviour discussion rather than as an isolated rule.

Family-based obesity prevention programmes have produced mixed results, demonstrating that education alone does not

necessarily produce sustained changes in weight. A systematic review of multicomponent family interventions for children aged one to five years found that many interventions improved dietary behaviours, while significant effects on weight outcomes were less consistent [9]. This finding is important for community nursing because it suggests that programme success should not be evaluated only by changes in BMI. Improvements in diet quality, physical activity, sleep, family routines and health literacy may represent meaningful intermediate outcomes.

Home-based nursing provides an additional opportunity because nurses can observe the actual family environment. Home visits may reveal barriers that cannot easily be identified in clinics, such as limited food-storage facilities, irregular household schedules, caregiver workload or lack of safe play space. Nurses can therefore individualise recommendations according to the family's circumstances.

School-Age Children: Linking Nursing, Schools and Communities

The school environment is a major setting for obesity prevention because children spend substantial portions of their day there. School health nurses can contribute through growth monitoring, health education, physical-activity promotion, healthy eating initiatives, coordination with teachers and parents, and referral of children requiring further assessment.

School-based obesity prevention programmes commonly address nutrition, physical activity, sedentary behaviour or combinations of these factors. A large Cochrane review update published in 2022 included 195 studies and found a small favourable effect on BMI in school-based interventions, while effects were not consistently demonstrated in after-school, community or home settings [10]. However, long-term evidence remains less certain. A systematic review of primary-school interventions found no clear long-term effects on BMI, BMI z-scores or waist circumference, with evidence certainty ranging from moderate to very low [11].

These findings suggest that school nursing interventions should not depend on short-term educational programmes alone. Sustainable strategies should become part of the school environment. Nurses can participate in school wellness committees, support healthier food environments, promote active breaks, coordinate physical-activity campaigns and help teachers recognise unhealthy weight-related stigma.

Nurses can also support growth monitoring while ensuring confidentiality and sensitivity. Children should not be publicly labelled according to their weight. Communication with parents



should focus on growth patterns, overall health and healthy behaviours. When abnormal growth patterns or obesity-related complications are suspected, appropriate referral should be arranged.

Adolescence: Addressing Behaviour, Identity and the Digital Environment

Adolescence is a particularly important stage because young people gain greater autonomy over food choices, physical activity, sleep and media use. At the same time, peer influence, academic demands, body image concerns and digital environments can affect health behaviours. Community nurses working in schools, colleges and youth health services can therefore provide confidential, developmentally appropriate counselling.

Adolescent obesity prevention should avoid highly restrictive dieting messages. Instead, nurses can promote balanced eating, regular meals, enjoyable physical activity, adequate sleep and healthy relationships with food and body image. Motivational interviewing techniques can be useful because they emphasise collaboration and personal goals rather than confrontation.

Digital technologies provide additional opportunities for adolescent health promotion. Earlier systematic reviews have examined web-based interventions, active video games, smartphones and other technology-supported strategies for obesity prevention and management [12]. Digital communication can support self-monitoring, reminders, goal setting and access to educational materials, but it should complement rather than replace supportive human interaction.

Community nurses should also consider the digital food environment. Adolescents may be exposed to intensive marketing of energy-dense foods and sedentary entertainment. Prevention therefore requires media literacy as well as individual behaviour change. Nurses can help adolescents critically evaluate online health information and commercial nutrition messages.

Community Nursing Strategies for Adults

Adulthood introduces changing occupational, family and social responsibilities that can make healthy behaviour difficult. Long working hours, commuting, childcare, financial pressures, stress and sedentary occupations may reduce opportunities for physical activity and healthy meal preparation. Community nurses can address these barriers through individual counselling and population-level programmes.

Evidence supports multicomponent behavioural approaches for adults with obesity. The US Preventive Services Task Force

concluded in 2018 that offering or referring adults with obesity to intensive, multicomponent behavioural interventions provides a moderate net benefit [13]. Effective programmes commonly incorporate dietary modification, increased physical activity, self-monitoring, goal setting, problem solving, social support and relapse prevention.

Nurse-led interventions can integrate these components into primary healthcare and community programmes. A systematic review of nurse-delivered lifestyle interventions found that nurse counselling could be more effective than health screening alone and that behaviour-change-based counselling was particularly useful when multiple counselling sessions were provided [14]. Nurses can therefore move from one-time advice toward continuing relationships that support behaviour maintenance.

Community nurses can assess dietary patterns, physical activity, sleep, stress, medication-related factors and social barriers. Individual goals should be realistic and measurable. For example, a person who is currently inactive may begin with regular walking rather than being instructed to undertake an unrealistic exercise programme. Similarly, nutrition counselling can focus on gradual modifications to usual meals rather than imposing unfamiliar diets.

Community-Based Weight Management and Behaviour Change

Community obesity prevention programmes can operate through health centres, resident associations, workplaces, faith-based organisations, local governments, self-help groups and community clubs. Community nurses can coordinate group education sessions, walking programmes, healthy cooking demonstrations and peer-support activities.

The value of community participation is that interventions can be adapted to local culture and resources. Whole-community interventions generally involve community engagement and multiple strategies operating across geographical areas. Evidence from community-level obesity research suggests that multilevel approaches may influence behaviours and, in some circumstances, weight-related outcomes [15,16].

A successful community nursing programme should therefore begin with a community assessment. Nurses can identify common dietary practices, availability of healthy foods, opportunities for physical activity, transportation patterns, local recreational resources and socioeconomic barriers. Community members should participate in programme planning rather than simply receiving predetermined health messages.



Sustainability is another essential consideration. A review of community-based obesity prevention programmes identified resourcing, leadership, workforce development, community engagement, partnerships, policy, communication, adaptability, evaluation and governance as important factors associated with sustainability [17]. Nurses can contribute to each of these domains through programme coordination and continuous community engagement.

Workplace and Occupational Approaches

The workplace is an important adult setting for obesity prevention because occupational behaviour contributes substantially to daily physical activity and sedentary time. Community or occupational-health nurses can organise workplace wellness activities, health assessments, nutrition education, physical-activity challenges and referral programmes.

Workplace interventions should avoid creating punitive environments in which employees feel pressured to lose weight. Instead, programmes can promote healthier cafeterias, opportunities for movement during work, active commuting, stair use, scheduled activity breaks and access to supportive health services.

Community nurses can also collaborate with employers to identify occupational barriers. Shift workers, for example, may experience irregular sleep and meal schedules that require different strategies from those appropriate for daytime workers. Prevention must therefore be flexible and sensitive to occupational circumstances.

Prevention During Later Adulthood and the Transition to Older Age

Middle age and the period approaching retirement represent another opportunity for prevention. Changes in metabolism, physical activity, employment status and muscle mass may contribute to changes in body composition. Nutrition and exercise programmes around retirement age have been investigated as strategies to improve body composition, BMI and waist circumference [18].

Community nurses can encourage adults in this stage to maintain regular physical activity, including aerobic and muscle-strengthening activities, while supporting dietary quality and adequate protein intake. Prevention should focus on preserving function and metabolic health rather than pursuing rapid weight reduction.

This distinction becomes increasingly important in older adults. Weight loss achieved through excessive dietary restriction may

contribute to loss of muscle and functional capacity. Community nursing assessment should therefore include mobility, falls risk, nutritional adequacy, appetite, medication effects, physical activity and social isolation.

Among community-dwelling older adults with obesity and frailty, nutritional interventions require careful consideration of body composition and functional status. Evidence suggests that nutrition advice may influence body weight, body composition and other outcomes, although intervention effects vary [19]. Nurses should therefore coordinate nutritional and physical-activity interventions rather than treating weight as the only outcome.

The Role of the Family Across the Lifespan

Family involvement is one of the most consistent themes in life-course obesity prevention. Family members influence food availability, meal patterns, activity opportunities, sleep routines and attitudes toward body weight. In childhood, parents and caregivers are central to environmental change; in adulthood, partners and household members may influence behaviour; and in older adulthood, family members may provide practical support.

Family empowerment is different from simply providing instructions. Nurses can involve families in identifying their own barriers, setting achievable goals and deciding which behaviours to change first. Systematic evidence indicates that family empowerment and family-centred interventions can contribute to childhood obesity prevention and management [20].

Community nurses should also recognise differences in family structure, culture and resources. Recommendations should be culturally appropriate and financially realistic. Local foods should be incorporated into nutrition education rather than assuming that healthy eating requires expensive or unfamiliar products.

Addressing Social Determinants and Health Inequities

Obesity prevention cannot be separated from social determinants of health. Access to nutritious food, safe spaces for physical activity, education, employment, housing, transportation and social support can influence opportunities for healthy living. Consequently, telling individuals to “eat better and exercise more” without considering their environment may have limited impact.

Evidence examining inequalities in behavioural weight-management interventions suggests that differences in intervention uptake, adherence and attrition may occur according to socioeconomic and other characteristics [21]. Community nurses can help identify these disparities and advocate for accessible services.



For example, a community with limited access to fresh foods may require partnerships with local food suppliers or community organisations rather than repeated individual nutrition lectures. A neighbourhood without safe walking areas may require collaboration with local authorities to improve opportunities for physical activity. Nurses can therefore function as health advocates at the community and systems levels.

Behaviour-Change Techniques in Community Nursing

Effective obesity prevention requires behavioural strategies that help individuals translate knowledge into action. Nurses can use goal setting, self-monitoring, problem solving, stimulus control, social support, motivational interviewing and relapse-prevention techniques.

Self-monitoring may involve recording meals, physical activity or sedentary periods. Goal setting should be specific and achievable. Problem solving allows individuals to anticipate barriers such as social events, travel, work schedules or family responsibilities. Relapse prevention recognises that lapses are common and should be treated as opportunities for learning rather than failure. The intensity of intervention is important. Evidence reviewed by the USPSTF indicates that more intensive behavioural programmes for adults can produce clinically meaningful improvements in weight and related outcomes [13]. In children and adolescents, intensive interventions involving parents and children and incorporating nutrition, physical activity, self-monitoring and goal setting have also demonstrated benefits [22]. Community nurses can contribute to such programmes through repeated contact and follow-up.

Multidisciplinary Collaboration and Referral

Community nursing should not operate in isolation. Obesity prevention often requires multidisciplinary input from physicians, dietitians, physiotherapists, psychologists, physical-activity specialists, social workers and public health professionals.

The nurse can serve as a coordinator who identifies risk, provides initial counselling, monitors progress and facilitates referral. Individuals with suspected endocrine disorders, severe obesity, eating disorders, significant psychological distress or obesity-related complications require appropriate medical evaluation.

Referral should be framed positively and without blame. Nurses can explain why another professional is being involved and ensure continuity of care. Effective communication between community and clinical services prevents fragmented care and supports long-term follow-up.

Monitoring and Evaluation of Community Nursing Programmes

Evaluation is essential for determining whether obesity-prevention programmes are reaching their intended population and producing meaningful changes. BMI and waist circumference may be useful outcomes, but they should not be the only measures.

Community nursing programmes should also evaluate dietary quality, physical activity, sedentary behaviour, sleep, health knowledge, self-efficacy, participation, programme adherence and quality of life. For children, growth trajectories should be interpreted according to age and sex rather than using adult BMI thresholds. WHO growth standards and references should guide appropriate assessment [1,7].

Process indicators can include the number of people screened, counselling sessions completed, referrals made, community organisations involved and educational activities delivered. Longer-term evaluation can examine changes in behaviour and weight-related health outcomes.

Importantly, programmes should assess equity. Participation and outcomes should be examined across socioeconomic groups, geographic areas and other relevant population characteristics where appropriate. This can identify whether a programme is inadvertently benefiting people who already have greater access to health resources.

Challenges in Community Nursing Approaches

Several challenges can limit the effectiveness of community obesity-prevention programmes. First, obesity is influenced by factors that individual nurses cannot change independently. Food prices, commercial marketing, urban design, transportation and employment conditions may require policy-level solutions.

Second, behaviour change is difficult to sustain. Short-term programmes may improve knowledge or behaviour without producing lasting effects on weight. Long-term sustainability requires community ownership, adequate resources and institutional support [17].

Third, obesity prevention must avoid stigma. Weight-focused interventions can unintentionally produce shame if communication is insensitive. Nurses should therefore use respectful language and avoid attributing obesity solely to lack of motivation.

Fourth, cultural diversity must be considered. Dietary patterns, physical activity practices, family structures and perceptions of body size vary across populations. Community nurses should use



culturally responsive approaches and involve community members in programme development.

Finally, access to evidence-based training may vary among community nurses. Continuing professional education in nutrition, physical activity, motivational interviewing, behavioural science, obesity assessment and community programme evaluation can strengthen nursing capacity.

Future Directions for Community Nursing

Future community nursing approaches should move toward integrated, multilevel and life-course prevention. Instead of isolated educational sessions, programmes should combine individual counselling with family engagement, school initiatives, community mobilisation and environmental strategies. The socioecological model provides a useful framework because obesity-related behaviour is influenced at individual, interpersonal, organisational, community and policy levels [3].

Digital health also offers opportunities for follow-up, self-monitoring and communication. However, digital interventions should complement rather than replace personal interaction, particularly among populations with limited digital access. Digital programmes should also be evaluated for equity and accessibility.

Research should increasingly examine the effectiveness of nurse-led community programmes in diverse populations, particularly in low- and middle-income countries. More evidence is needed regarding long-term outcomes, cost-effectiveness, implementation, sustainability and adaptation to local cultural contexts.

Nursing research should also expand beyond BMI. Future studies could examine cardiometabolic risk, functional ability, dietary quality, physical activity, psychological wellbeing, health-related quality of life and healthcare utilisation. Such outcomes better reflect the broad health objectives of obesity prevention.

Conclusion

Obesity prevention is most appropriately understood as a lifelong community health responsibility rather than an isolated clinical intervention. Risk factors and protective behaviours develop from pregnancy through infancy, childhood, adolescence, adulthood and older age. Community nurses are uniquely positioned to support this continuum because they work across homes, families, schools, workplaces, primary healthcare facilities and community organisations.

Effective community nursing approaches should combine nutrition promotion, physical activity, reduction of sedentary behaviour,

adequate sleep, behavioural counselling, family empowerment and supportive environments. During pregnancy and infancy, prevention should focus on healthy maternal behaviours, appropriate feeding and responsive caregiving. During childhood, family and school environments become central. Adolescents require approaches that respect autonomy, body image and digital influences. Adults benefit from sustained behavioural support, self-monitoring and practical strategies adapted to occupational and family responsibilities. In older adults, prevention should emphasise functional health, nutritional adequacy and preservation of muscle and independence.

The evidence also demonstrates that education alone is insufficient to address the complexity of obesity. Community participation, interprofessional collaboration, environmental modification, social support and sustainable systems are essential. Nurses can contribute not only as educators but also as care coordinators, advocates, programme developers, researchers and leaders in community mobilisation.

A life-course community nursing approach therefore begins before obesity develops and continues through changing stages of life. By integrating individual support with family-centred care and population-level action, community nurses can contribute substantially to healthier environments, improved health behaviours and the long-term prevention of obesity and its associated complications.

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