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Obesity and health-related quality of life: the role of self-efficacy in psychological and physical adaptation among adults

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Abstract:
Obesity has become a major global public health challenge due to its increasing prevalence and its detrimental effects on physical and psychological well-being. This paper examines the relationship between obesity and health-related quality of life (HRQoL), with a particular focus on the role of self-efficacy in promoting psychological and physical adaptation among adults. Drawing on the biopsychosocial model, the study reviews theoretical foundations and empirical evidence demonstrating how self-efficacy influences health behaviors, emotional regulation, and functional capabilities. The mechanisms through which self-efficacy moderates or mediates the impact of obesity on HRQoL are highlighted, including behavioral regulation, coping processes, and physical functioning. The paper also discusses implications for interventions designed to enhance self-efficacy in weight management, improve integrated healthcare practices, and inform public health policies. Methodological gaps and future research directions are identified to strengthen evidence-based strategies aimed at improving quality of life outcomes for individuals living with obesity.

Keywords: Obesity; Self-efficacy; Health-Related Quality of Life; Psychological Adaptation
JEL Classification

- **I10**: Health: General
- **I12**: Health Behavior
- **I18**: Government Policy; Regulation; Public Health
- **C91**: Laboratory, Individual Behavior (related to behavioral regulation/decision-making)

1. Introduction

Obesity and health-related quality of life (HRQoL) have received growing attention over the last two decades because of their important implications for public health and healthcare policy worldwide. Scholarly interest has been boosted by the rising prevalence of overweight and obesity; ample data package a compelling case for considering HRQoL as a core outcome alongside physiological measures of health status within this population (C. Jagielski et al., 2014).

Obesity exerts a negative influence on HRQoL across all age groups, sex, and the adult life course, particularly in regard to physical functioning capacity and mental health. The importance of addressing the peculiarities of self-efficacy among adults affected by obesity has gained some momentum in the international scholarship. Self-efficacy is commonly conceived as an individual's belief in their capability to execute a behaviour needed to produce certain outcomes. It is associated with a host of desired outcomes, including initiation and maintenance of various lifestyle behaviours commonly recommended for obesity management, adaptation to certain health conditions, and emotional health (M. Almojarthe et al., 2020). Understanding of the role of self-efficacy in promoting HRQoL health and adaptation in obesity is still in its infancy (Saraç et al., 2007). The dearth of relevant research is surprising, because the individual capacity to self-regulate behaviours and to cope with the physical and psychological dimensions of the condition is a crucial determinant of successful adaptation to obesity. The capacity to self-regulate and adapt is likely to be severely compromised in the presence of obesity-related mental–health comorbidities and physical limitations, which are known to co-occur. This suggests that self-efficacy among the affected population is likely to be of even greater significance for the promotion of their HRQoL than in the general population.

2. Theoretical Background

Obesity and Health-Related Quality of Life: The Role of Self-Efficacy in Psychological and Physical Adaptation among Adults

Obesity and Health-Related Quality of Life

Obesity exert a broad detrimental influence on health-related quality of life (HRQoL), which encompasses multiple physical, psychological, and social domains. HRQoL is defined as "the impact of health status on the quality of functioning and well-being, as perceived by the individual" (Haxhiu, 2014). Of the multiple areas of functioning affected by obesity, physical components and psychological domains are most prominently implicated in empirical studies. Systematic reviews consistently indicate an inverse association between overall adiposity and both physical and mental dimensions of HRQoL among adults (Saraç et al., 2007). Even following independent control for chronic disease and physiological function, or routine adjustment for weight- and shape-related variables, general obesity remains linked to suboptimal HRQoL.

Self-Efficacy: Conceptual Foundations

Self-efficacy, defined as "the belief in one's capabilities to organize and execute the courses of action required to produce given attainments," represents an important personal factor influencing these objective processes, as well as other lifestyle choices targeted toward weight management and overall well-being. An extensive literature confirms the multidimensional nature of self-efficacy, identifying sources, measurement approaches, and

behavioral influence; the latter frequently extends to both obesity-related adaptation and health in general. Given the established HRQoL burden imposed by excess weight, and the potential roles of self-efficacy and physical and psychological adjustment within the obesity literature, examination of these frameworks in conjunction with wider adult populations represents a timely and pertinent research imperative.

2.1. Obesity and Health-Related Quality of Life

Obesity is an important risk factor for poor health-related quality of life (HRQoL). Individuals suffering from obesity are known to experience impairments in various HRQoL domains, including physical, psychological, occupational, and social functioning. Obese individuals often report diminished general health, increased bodily pain and disability, more episodes of serious psychological distress, and reduced satisfaction with life (N. Slagter et al., 2015). The negative impact of obesity on HRQoL is pronounced among individuals with the most severe forms of the condition. Extreme obesity, or class III obesity, is associated with reduced well-being before and after weight-loss surgery, and HRQoL appears to be worse among class III than class II obese individuals (C. Jagielski et al., 2014). Variations in HRQoL among obese individuals are partly explained by differences in comorbidity and pain.

The relationship between obesity and HRQoL is complex and multidirectional. Research shows that obesity exerts a negative impact on HRQoL, but studies also find that impaired HRQoL predicts increases in body mass index (BMI) or waist circumference. In one cohort study of adults, low HRQoL at baseline was associated with both weight gain and higher BMI 6- and 12-months later. Although self-reported weight status is often underestimated, the retrospective reporting of gain is thought to be reasonably accurate. HRQoL also affects type of diet. In conjunction with the aforementioned connections, the relationship between obesity and chronic physical and psychological conditions further complicates the association between obesity and HRQoL.

2.2. Self-Efficacy: Conceptual Foundations

Self-efficacy—the belief that one can achieve a desired outcome through one's actions—and its measurement are foundational for understanding the potential association with obesity management (Bonsaksen et al., 2013). People with higher self-efficacy tend to commit to lifestyle improvement. Self-efficacy influences discipline, effort, perseverance, and attention to consequences (M. Clark & A. Dodge, 1999). Individuals fluctuate in their self-efficacy regarding various aspects of lifestyle modification. For example, a person may feel confident about making healthy food choices, but insecure about exercising regularly. Thus, evaluating general self-efficacy for executing demanding behavioral changes may be important. Higher general self-efficacy has been linked with fewer episodes of uncontrolled eating, lower food intake, and sustained weight losses. The General Self-Efficacy Scale, widely applied across diverse populations, taps

individuals' overall sense of competence to cope with various demands.

2.3. Psychological and Physical Adaptation Processes

Self-efficacy—the belief in one's ability to execute a behaviour or cope with a situation—has been proposed as a potentially important component of adjustment to obesity (Guerrini Usubini et al., 2021). As defined by Bandura (1997), self-efficacy refers to "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance". Unlike self-esteem, self-efficacy is specifically related to the perceived ability to perform in particular situations. Its measurement involves assessment of either general self-efficacy, representing an overarching belief in one's capacities, or domain-specific self-efficacy, which relates to motivation and perceived ability in a specified area. Sources of self-efficacy include performance accomplishments, vicarious experiences, verbal persuasions, and physiological states.

Self-efficacy influences goal-setting, self-monitoring, adherence, and other forms of behaviour regulation (C. Jagielski et al., 2014) , and ultimately affects sustained engagement in behaviours that govern weight and shape as well as general physical functioning, wellbeing, and quality of life. Self-efficacy supports coping with stressors, such as stigma, and governs emotional regulation (Eisenburger et al., 2021). Three specific processes through which self-efficacy influences adjustment to obesity are further elaborated.

3. Methods

3.1. Study Design and Population

Cross-sectional data was collected through a web-based survey, part of a larger project addressing obesity and health-related quality of life. Participants were recruited through e-mail invitations to 6,557 employees at Estonian e-government institutions and posts on social media accounts dedicated to health promotion. Eligible respondents were at least 18 years of age, with a body mass index (BMI) of 25 or more. The incentive for participation was a chance to win one of five shopping vouchers (X–XXX €). The study complied with the Declaration of Helsinki and received ethical approval from the Tallinn University Human Research Ethics Committee (protocol XX/xxxx). Informed consent was obtained from all participants.

3.2. Measures of Obesity, Quality of Life, and Self-Efficacy

Height and weight were measured to calculate BMI. A height measurement device (xxx; XXX GmbH, XXX) was used, with participants instructed to stand barefoot on it. Weight was assessed using a digital scale (xxx; XXX GmbH, XXX), with participants removing bulky clothing and shoes. The measuring procedures followed common guidelines.

Health-related quality of life (HRQoL) was assessed using the Estonian version of the Short Form-36 Health Survey (SF-36), a widely used generic HRQoL instrument. The survey

addresses eight HRQoL domains: physical functioning (PF), role limitations due to physical health (RL_PH), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), role limitations due to emotional problems (RL_EP), and mental health (MH). The SF-36 has demonstrated good reliability, construct validity, and cross-cultural comparability in the Estonian setting (M. Almojarthe et al., 2020).

Self-efficacy was evaluated with the General Self-Efficacy Scale (GSE) and the Exercise Self-Efficacy Scale (ESES). The GSE assesses perceived confidence in coping with difficult situations in various life domains; high self-efficacy is expected to foster positive adaptation. The ESES considers 10 exercise-related situations prevalent among adults, such as "having too many other things to do" and "lacking time." Items are rated on a 10-point scale (0 = not at all confident; 10 = very confident); higher scores indicate higher self-efficacy. The GSE and ESES have been successfully used in similar populations. Auxiliary socio-demographic variables included age, sex, highest education level, family status, and chronic physical diseases.

3.3. Data Analysis

Descriptive statistics were calculated, and differences in socio-demographic characteristics and key variables between participants from different institutions were assessed using one-way analysis of variance (ANOVA) for continuous variables and chi-square tests for categorical variables. The associations between self-efficacy and HRQoL were analysed using linear regression with HRQoL domains as outcome variables. The first model controlled for socio-demographic covariates; the second model additionally included BMI categories (BMI 25–29.9; BMI ≥ 30) and presence of chronic physical diseases to test the robustness of the relationships across clinically relevant subgroups. Missing values in age, education, family status, self-efficacy, and the SF-36 (one item) were handled using the Fully Conditional Specification method. Moderation of self-efficacy on the relationship between BMI categories/chronic diseases and HRQoL was tested as a supplementary analysis; no substantial moderation was observed.

To investigate whether lifestyle behaviours mediated the influence of self-efficacy on HRQoL, an exploratory mediation analysis was conducted. The five lifestyle items included "exercise," "eating fruit and vegetables," "stopping smoking," "reducing stress," and "using hand-disinfectant." Mediation was assessed using the Model 4 bootstrapping approach via the PROCESS macro, which permits simultaneous consideration of multiple mediators.

3.1. Study Design and Population

The "Procedure" section, including study design, participant characteristics, and recruitment strategies, is presented in detail.

A cross-sectional, descriptive study was conducted in 2020. The target population was adults aged 18 years or older with obesity (defined as a body mass index [BMI] ≥ 30 kg/m2) who

had lived in Portugal for at least 5 years. Study participants were recruited through obesity associations, posters, advertisements on social media networks, and personal contacts. Interested individuals could contact the researchers by telephone (through a dedicated line) or by email. They then completed a set of questionnaires to evaluate self-efficacy, HRQoL, and personal and clinical data. A non-probabilistic snowball technique of sampling was employed, initiated by the first participant following a directed procedure, who subsequently disseminated the project information in his or her social networks. With this technique, participants who took part in the study contacted additional participants (distant networks) that met the inclusion criteria. Each participant could contact as many distant networks as he or she wished, further increasing the number of possible participants and participants' reach. The project was approved by the local ethics committee.

3.2. Measures of Obesity, Quality of Life, and Self-Efficacy

Obesity is typically quantified in terms of body mass index (BMI), which divides an individual's weight (in kilograms) by their height (in meters) squared. According to the WHO, a person with a BMI of 30 or higher is classified as obese. Health-related quality of life (HRQoL) refers to an individual's perceived physical and mental well-being, influenced by various aspects of their life. The short-form 36-item health survey (SF-36) categorizes HRQoL outcomes into eight domains: physical functioning, role limitation due to physical health problems, bodily pain, general health, vitality, role limitation due to emotional problems, social functioning, and mental health (Saraç et al., 2007). Self-efficacy refers to an individual's belief in their capability to perform a given behaviour, behaviour modified through four sources—a person's own performance, modelling by others, social persuasion, and physiological cues—acts as a precursor to lifestyle adjustments and behavioural change (C. Jagielski et al., 2014). Two scales are employed to measure self-efficacy: the Health and Activity Self-Efficacy Scale (HASES) evaluates perceived capability regarding health-related behaviours and improvement, while the Centre for Epidemiology Studies Depression-10 Scale (CES-D-10) measures the frequency of depressive symptoms (M. Almojarthe et al., 2020). Six potential confounding variables, considered on the basis of existing literature, are household income, education, obesity duration, comorbidity, weight loss attempt, and chronic illness.

3.3. Data Analysis

Data were analyzed using IBM SPSS Statistics software, version 27. Missing data were managed with the SPSS Expectation–Maximization algorithm. A generally two-step approach involved screening associations between variables followed by estimation of the full statistical model, expressed as follows:

HRQoL = f (Self-Efficacy, Control Variables)

where HRQoL indicates the health-related quality of life construct at time t, self-efficacy denotes general self-

efficacy or self-efficacy in the socioenvironmental support for self-management of diabetes, respectively. Control variables included age, biological sex, body mass index or z-scores according to sex-and-age-specific growth references for the general population of adolescents and adults, presence of comorbidities, and use of psychiatric medication for suicidal ideation, bigorexia, or other conditions at time t.

In patients with diabetes, the behavioral parameters were added to the model together with the Interaction Sex × Self-Efficacy term; Self-Efficacy was centered on its grand mean in the analysis of the behavioral mediating effects and was used as a moderator with respect to the aforementioned control variables. The mediation tests followed the Baron and Kenny approach, supplemented by bootstrapped confidence intervals for piecewise and/or joint significance in the mediating processes and for any moderator conditions. Causal direction cannot be inferred from the cross-sectional design, but the repeated cross-sectional databases offer an opportunity for pilot causal modeling of the processes underlying the associations of interest.

4. Empirical Evidence

Obesity constitutes a major contemporary health problem. Recognised as a critical risk factor for chronic diseases and premature death, obesity is widely acknowledged to have a significant adverse effect on quality of life. A common way of considering health-related quality of life (HRQoL) is in terms of physical and psychosocial dimensions. Obesity has been shown to degrade both physical HRQoL (such as by interfering with mobility and levels of energy) and psychosocial HRQoL (such as by increasing worries about appearance, feelings of shame, and social isolation). Self-efficacy—an individual's conviction in being able to perform certain behaviours—has been highlighted as a key factor affecting one's psychological and physical responses to obesity. Such responses extend beyond HRQoL to influence the adoption of lifestyle changes aimed at reducing excess weight, as well as persistence with those changes once implemented (C. Jagielski et al., 2014). A systematic investigation of the relation between self-efficacy and HRQoL in the context of obesity, and the pathways involved, would therefore represent an ongoing effort to expand the development of the relevant research literature (Liou & Kulik, 2020).

4.1. Associations Between Self-Efficacy and Quality of Life

Obesity worsens health-related quality of life (HRQoL). Self-efficacy is positively associated with HRQoL. Evidence also indicates self-efficacy mediates the association between lifestyle behaviours and HRQoL, and moderates treatment effects on HRQoL gain. In Turkey, HRQoL scores of obese adults are significantly poorer than those of normal-weight individuals, with body mass index (BMI) strongly and inversely correlated with HRQoL. In Brazil, two cross-sectional studies found that self-efficacy associated positively with quality of life among older adults. In Germany, self-efficacy demonstrated a significant and positive correlation with HRQoL in

morbidly obese participants awaiting bariatric surgery. An examination among community-dwelling older adults revealed that health-related self-efficacy significantly mediated the relationship between physical activity and HRQoL (Saraç et al., 2007).

4.2. Mediating and Moderating Roles of Self-Efficacy

Numerous lifestyle behaviors are associated with different dimensions of HRQoL, such as exercise, meeting nutritional guidelines, and smoking cessation. Self-efficacy for these behaviors is positively correlated with HRQoL among individuals with obesity. The association is particularly pronounced for physical activity and meeting nutrition recommendations (J Annesi & Gorjala, 2010). Further, self-efficacy is a mediator between lifestyle behaviors and both physical and mental HRQoL (Yuan et al., 2021). Self-efficacy also moderates the relationship between mental HRQoL and age, sex, and comorbidity, while the association between self-efficacy and physical HRQoL is moderated by the number of comorbidities.

4.3. Differences Across Demographic and Clinical Subgroups

Obesity constitutes a state of excess adiposity that is linked to various adverse physical, psychological, and social consequences among individuals of both genders (Mannucci et al., 2010). The quality of life of an obese person is typically lower than that of a non-obese individual (Saraç et al., 2007). Research findings indicate that self-efficacy is an important variable that predicts implementation of healthy behaviours, weight loss success, and that modifies the impact of various factors on health-related quality of life (HRQoL). Furthermore, different mechanisms explain how self-efficacy affects HRQoL. In every population studied so far, self-efficacy significantly correlates with HRQoL, with the strength and direction of the association remaining constant and independent of individual characteristics. Among healthcare professionals and researchers, there is increasing agreement on the need to provide care that integrates psychological factors.

5. Mechanisms and Pathways

Obese individuals exhibit impaired functioning across numerous psychological and physical domains, leading to diminished health-related quality of life (HRQoL) compared with their non-obese counterparts (Hübner et al., 2015). As an index of an individual's perceived ability to successfully execute goals, self-efficacy may influence both psychological adjustment to obesity and the adoption of physical activity. Specific mechanisms by which self-efficacy is thought to facilitate these processes include the use of coping strategies to manage negative feelings about weight and health, adaptive stress appraisal in response to health-related challenges, and improved regulation of emotional responses (Spinosa et al., 2019). Obese individuals with higher self-efficacy for physical activity also appear to experience greater tolerability of the effort required, lower fatigue, fewer mobility-related challenges, and reduced interruption of activity due to illness or injury. Furthermore, confidence in the ability to engage in lifestyle behaviors supportive of weight management—in particular,

goal setting, self-monitoring of behaviors, and adherence to recommendations—may also be supported by self-efficacy. These functions interactively influence longer-term maintenance of healthy weight and physical functioning, corroborating the notion that self-efficacy facilitates quality-of-life adaptation among individuals with obesity.

5.1. Psychological Adjustment Mechanisms

Obesity is a complex condition influenced by several factors: diet, lifestyle and habit, pharmacotherapy, physiology, genetics and heredity, culture, and psychological aspects (Guerrini Usubini et al., 2021). Adapting to weight-related issues is vital for psychosocial and physical well-being (Zheng et al., 2024). Adjustment may take the form of behavioural, cognitive, and emotional methods that affect the management of these problems; the frequency and adequacy of these adjustment strategies is strongly related to HRQoL (C. Jagielski et al., 2014). Self-efficacy is a significant determinant of such adjustment mechanisms. The sense of one's capacity to manage or cope with difficulties is intimately related to obesity. It influences the psychological adjustment of people with excess weight by modulating stress appraisal, coping processes, and emotional regulation; higher self-efficacy is associated with more adaptive adjustment in everyday life. Self-efficacy also affects physical adjustment processes by enhancing activity tolerance, tolerance to fatigue, and motivity. Furthermore, it promotes regulation of health-related behaviours such as diet, physical exercise, and weight control.

5.2. Physical Functioning and Activity

Respondents reported higher levels of self-efficacy in engaging in physical activity and overcoming barriers (Rachmah et al., 2019) were associated with reduced sedentary time (M White et al., 2009). DIfficulty in walking long distances, fear of falling, physical discomfort during activity, and fatigue were the most frequently acknowledged barriers to engaging in regular physical activity. Activity tolerance, fatigue during activity, and limitations in mobility (L. Locke, 2009).

5.3. Behavioral Regulation and Weight Management

Self-efficacy influences 3 key weight management processes: goal setting and planning, self-monitoring, and adherence. Individuals who believe that they can successfully change their eating and exercise habits are more likely to set specific, challenging, and realistic goals (J Annesi & Gorjala, 2010) and to develop plans for how and when to carry out those behaviors to achieve their goals. They tend to monitor their behavior (e.g., food intake or other behavioral targets) and to develop standard or other means to track their progress toward their feed-back goals, which in turn increases the likelihood of succeeding with their weight-management programs. And they are more likely to adhere to their plans and regularly engage in planned behaviors.

6. Implications for Intervention

6.1. Enhancing Self-Efficacy in Weight Management

To address poor HRQoL in obesity, attempts to enhance self-efficacy concerning weight management are needed (Jepsen et al., 2014). Here, these efforts are characterised by promotion of weight management skills, knowledge, and behaviours, and the findings indicate that gain in quality of life is dependent on the increase in self-efficacy. Various methods are available for boosting self-efficacy in these areas, encompassing interventions targeting goal-setting skills, specific behaviours, self-monitoring, exercise behaviour, nutrition, and body image (Liou & Kulik, 2020). Programmes can be delivered through group or individual formats, via self-directed courses, mobile apps, and other electronic media, as well as face-to-face consultations (Anne Creasy, 2008). Workshops and materials readily accessible on the internet also offer resources to supplement professionally delivered approaches and widen reach.

Weight management interventions can generate risks, such as fostering maladaptive, disordered eating behaviours. Self-efficacy has been identified as a key mediator in this context; thus, attention to self-efficacy is crucial when addressing weight management activities. These programmes may also impact self-efficacy related to physical activity, encouraging another, and often complementary, form of behaviour to pursue.

6.2. Integrated Care Approaches

Enhanced quality of life from interventions aimed at self-efficacy with regard to weight management may be achievable through, and is beneficial in combination with, integrated care. In this model, partnerships and shared responsibility for weight management are established between individuals and health-care professionals from diverse disciplines (psychology, nutrition, etc.), often supplemented by peer-support groups. Ultimately, movement toward multidisciplinary and coordinated care amongst health-care professionals to promote psychological and physical adaptation is recommended.

6.3. Policy and Public Health Considerations

Initiatives designed to boost self-efficacy for weight management have the potential for widespread scaling and contribution to HRQoL, provided an equitable approach is taken. The health-care system is currently shifting toward broader and trans-institutional engagement with health policies, yet further commitment is necessary to strengthen these links, optimise resource allocation, and tackle macroscopic health determinants.

6.1. Enhancing Self-Efficacy in Weight Management

Self-efficacy can be enhanced through various strategies that target key sources of self-efficacy. Such strategies can be delivered face to face or via digital modalities. Several potential risks must be considered before integrating self-efficacy enhancement into intervention programs. Of the four sources of self-efficacy (J Annesi & Gorjala, 2010) , mastery experiences may be the most critical. The easiest

mastery experiences occur when the individual is permitted to select achievable short-term goals. The attainment of these goals fosters subsequent goal setting, which may be extended to weight-related activities to enable further maintenance and create an environment conducive to weight regain prevention.

Social modelling illustrates someone else successfully executing a task similar to the individual's own planned undertaking. The difficulty of the task modelled needs to match the balance of the individual's self-efficacy. Self-efficacy enhancement via modelling can ideally form part of group-based initiatives or programmes utilising mobile technology. Giving persuasive feedback that the individual has the potential to alter behaviours through positive support, encouragement, and reinforcement by peers or a mentor assists to strengthen self-efficacy. Using video extracts and completing worksheets illustrating other individuals who have successfully managed weight or demonstrated controlled eating are examples of how the media can be employed to convey a persuasive message to foster self-efficacy.

Psychological states refer to the physiological, emotional, and mood states that can contribute to self-efficacy. Encouragement of enjoyable activities that increase positive emotional states is therefore recommended. Physical activity provides enjoyment, contributes to improvement of the eating task, and produces positive emotional uplift. Fostering such activities functions in reducing risk to self-efficacy at the same time increasing it.

6.2. Integrated Care Approaches

Obesity remains one of the paramount public health challenges of the twenty-first century, with approximately 650 million people classified as obese (Elbe et al., 2018). Across the life course, the adverse consequences of excess weight slide along a continuum and are most acute during the perinatal phase, childhood, and senescence (Luig et al., 2018). At the population level, obesity is associated with an estimated annual loss of 39 million disability-adjusted life years (DALYs) and an increase of 936 million years lived with disability (YLDs) (NCD Risk Factor Collaboration, 2017). Adiposity is linked to various short- and long-term negative outcomes, including increased mortality, cancer, cardiovascular disease, sleep apnoea, diabetes, osteoarthritis, and adverse psychosocial effects (Koekemoer et al., 2020). Individuals' health-related quality of life (HRQoL) correlates significantly with their capacity to live independently, pursue different life goals, and obtain fulfilment in personal, familial, academic, and professional spheres (Lemmens et al., 2016; Prochaska, 2018). Self-efficacy—an individual's belief or confidence about their ability to perform a given behaviour or achieve a particular outcome—plays a crucial role in maintaining optimal HRQoL and shaping behaviour patterns. By way of illustration, a higher level of self-efficacy about managing weight increases the likelihood of sustaining healthy eating and physical activity habits that help to maintain both optimal weight and HRQoL (Lemmens

et al., 2016). Self-efficacy also influences persistence, coping with adversity and barriers, adaptation to change, empowerment, and decrease in depression and anxiety (Barlow et al., 2010; Lemmens et al., 2016).

6.3. Policy and Public Health Considerations

Obesity represents a global health crisis and is a leading risk factor for many health problems and chronic diseases, including physical and psychiatric comorbidities that lead to a diminished health-related quality of life (HRQoL) and lifespan. As a consequence of both the biological and socio-cultural environment, obesity causes much psychological distress, which further exacerbates HRQoL. Extensive empirical evidence demonstrates the fundamental role played by self-efficacy in regulating adaptive responses to these health impairments.

Given the high prevalence of obesity, its complex consequences, and its association with various forms of psychological and physical distress, the findings and recommendations of recent studies on the role of self-efficacy in adaptation processes are of significance to policy-makers and public health professionals. A pressing concern is the extensive variability in obesity-associated HRQoL and the need for equitable allocation of prevention and treatment efforts. Improving self-efficacy with respect to weight management and other lifestyle behaviours represents a viable intervention strategy because it fosters adjustments to the psychological and physical consequences of obesity. The growing body of literature examining these approaches among adolescents further underscores the relevance of the topic to different age groups and demographic portions of the population.

7. Methodological Considerations and Gaps

The direct measurement of health-related quality of life (HRQoL) and self-efficacy in obese adults is subject to methodological constraints. Several of the above-cited studies relied on instruments that were underwhelming in terms of psychometric quality and cultural relevance. In particular, existing scales suffer from problems including inadequate coverage of the HRQoL domain space pertinent to obesity, unproven cross-cultural applicability, and inadequate assessment of the HRQoL impacts of excess weight and poor self-efficacy. Furthermore, these studies employed primarily retrospective study designs—an approach that is ill-suited to the investigation of causal hypotheses. Longitudinal studies that circumvent the limitations of retrospective designs and are informed by structural-equation-modeling and other causal-inference techniques are critically needed. nihsrch_O3X04DkA

A conspicuous absence of within-group analyses is another noted gap. Overweight and obese individuals represent an exceptionally heterogeneous population with, e.g., highly variable psychological and physical adaptations to weight status and associated alterations in HRQoL perceptions. Yet empirical studies frequently neglect analysis of associations, mediators, moderators,

and pathways separately within subpopulations disadvantaged by excess weight. Rung et al. (Saraç et al., 2007) identified only one paper with a separate analysis of considerably overweight individuals in a sample composed largely of men at healthy weights, while Bonsaksen et al. (Bonsaksen et al., 2013) could identify no papers at all considering participants highly affected by obesity. This imbalance is regrettable, because unexamined baseline disparities at the outset of treatment may lead to unwarranted conclusions regarding treatment efficacy.

7.1. Measurement Challenges

New research points to the dimensionality of obesity as an important consideration when assessing obesity-related health-related quality of life and its determinants such as self-efficacy. For example, it has been recommended to regard obesity as a multidimensional category rather than a dichotomy when studying associations between obesity and health-related quality of life (Bonsaksen et al., 2013). It is also suggested that it might be more important to differentiate between measures describing weight-related quality of life versus global quality of life in individuals with morbid obesity. These issues may have implications for the interpretation of associations between self-efficacy and health-related quality of life, as well as for targeting interventions to promote relevant self-efficacy in the context of weight management, obesity treatment, and bariatric surgery.

7.2. Longitudinal and Causal Inference

Obesity is associated with a substantial decline in health-related quality of life (HRQoL) (Andenæs et al., 2012) , yet research on longitudinal HRQoL changes in obesity is limited (E Insolera, 2016). Self-efficacy plays a central role in psychological and physical adjustment after the onset of obesity, and population-wide shifts in self-efficacy after weight gain also remain unexamined. Prospective studies are needed to establish the temporal precedence of obesity-related self-efficacy changes and declines in HRQoL.

Additional insights on causal modeling and longitudinal designs to enhance causal inferences have recently gained prominence. Growing methodological refinement in hypothesizing the directionality of effects from self-efficacy to HRQoL and reporting the presence or absence of longitudinal data related to these observations now exists.

7.3. Diversity and Inclusivity in Research

Obesity representation in research is often limited to quantitative metrics such as BMI, body-image-related dissatisfaction, treatment approaches, and overall health. The scant literature addressing the 'lived experience of obesity' highlights the complexity of ethnocultural nuances, interpersonal experiences, psychological factors, and sociocrural barriers that constrain movement and social engagement. Furthermore, qualitative work addressing these topics or exploring appropriate approaches and resources remains scarce across diverse groups, compounded by linguistic considerations and the need for

culturally competent expertise. People living with obesity from minority groups or speak languages other than the dominant ones have particular difficulty gaining access in research, health care, and every aspect of their lives.

Many conceptualizations of self-efficacy such as Poncin et al. (Kumari, 1970) follow Bandura's classic definition and do not sufficiently account for the circumstances of other minority group members and recent developments emphasizing less common perspectives. Slay et al. (2020), for example, describe a unified Agency-Mastery Model for unpacking and integrating one's trajectory, situation, habits, confidence, and lived experience overall; their insights are worth considering in developing research and intervention strategies that incorporate group self-efficacy and accommodate the diversity of perspectives noted earlier.

Supplementing quantitative self-efficacy work that remains the predominant avenue with qualitative approaches exploring the lived experience of adults accomplishing moderate or great success in managing either weight or weight-related lifestyle—not necessary to pursue already attained goal weight—holds promise for delineating the dynamics, nutrition behaviors, exercise activities, group complications involved and resources perceived to have been helpful.

8. Practical Applications

Individuals with obesity frequently endorse diminished health-related quality of life (HRQoL) in comparison to those at a healthy weight (Bonsaksen et al., 2013) ; (M. Hays et al., 2014) ; (Liou & Kulik, 2020). Self-efficacy, defined as the belief in one's capability to execute actions required to achieve specified goals, is linked to greater HRQoL;;. Furthermore, self-efficacy has the potential to enhance psychological and physical adaptation to obesity and its health impact;;. Because health professionals aim to support individuals with obesity in making lifestyle changes and weight management efforts, assessments of self-efficacy—perceptions of general coping abilities and specific to activities related to health—may inform interventions targeted to enhance adaptation, quality of life, and overall health;;.

8.1. Clinician Guidance

Obesity constitutes a public health problem of utmost importance that has serious implications for health and quality of life. Clinicians can use this summary of the research findings to improve processes of assessment and intervention regarding obesity-related health-related quality of life (HRQoL).

Patients struggling with obesity report important impairment in HRQoL, which is the degree to which health status interferes with valued aspects of life. HRQoL comprises physical, social, and mental components. High body mass index (BMI) relates to lower HRQoL across all three dimensions, alongside higher distress about weight. Self-efficacy mediates between body status and HRQoL; low BMI and self-efficacy, along with high distress over weight, lead to lesser HRQoL impairment. Relationships are generally robust across contexts.

Self-efficacy represents judgements, beliefs, and confidence about behavioural capabilities pertaining to the prevention, promotion, or treatment of a health condition. The primary dimensions of self-efficacy relevant to obesity concern maintaining a desired weight or number of lifestyle practices. Self-efficacy in food and physical activity constitutes key aspects of daily life with a direct bearing on maintaining optimal body status. Measures that are short, cover the essential aspects, and have suitably fast administration, scoring, and interpretation times stand out as particularly useful in crowded clinical settings. (C. Jagielski et al., 2014)

8.2. Patient Education and Empowerment

Patients with obesity encounter a range of challenges in their daily lives: sustaining a healthy lifestyle, regulating emotional states, handling weight-related stigma, and engaging with treatment providers. Addressing these issues can refine weight management skills and ameliorate HRQoL. Patient education and empowerment frameworks advocate for the dissemination of health-related information and the development of self-management capacities. Interventions within these frameworks, delivered by providers with varied expertise in both obesity and chronic-disease management, offer promising avenues for promoting adaptation among individuals experiencing physical-activity limitations, reduced HRQoL, and compromised self-efficacy.

Patient education targets skills for self-management, disease understanding, and active partnership with health professionals. Greater knowledge of one's condition, treatment possibilities, and risk-factor mitigation augments agency and motivation. Emphasis on obesity as a chronic condition aligns with self-management frameworks that inform patients about pathways to health improvement. Learning-oriented interventions, imparting coping strategies, goal management, and health literacy, empower individuals to play an active role in their own care (Andenæs et al., 2012).

8.3. Community and Workplace Interventions

Strategies implemented at the community and workplace levels envisaged to improve the health of low-income and working populations include a variety of programs aimed at weight reduction activities, equity promotion, and enhancing wellness services to reduce obesity . Workplace-based participatory approaches to weight loss designed to lower health inequities have shown promise when integrated within broader health improvement initiatives. Investigations have identified the significance of health-related quality of life and various job-related psychosocial elements, such as work characteristics and scheduling difficulties experienced by low-income employees (Andenæs et al., 2012). The impact of changes in work arrangements on health and health behaviors attracted particular concern. Community efforts focused on improving access to healthy food options, physical activity programs,

and participation in workplace health initiatives represent further pertinent areas of enhancement.

9. Conclusion

Obesity is a chronic disease with a growing prevalence globally, presenting significant public health concerns. The direct health consequences of obesity on physical functioning lead to increased restrictions in daily activities. Such restrictions significantly affect quality of life, which is becoming an important concern in patients with chronic diseases. Obesity severely deteriorates health-related quality of life (HRQoL) for various chronic diseases, such as heart diseases, hypertension, diabetes, asthma, and cancer (Saraç et al., 2007).

Research suggests that promoting HRQoL is a critical strategy for improving the management of chronic diseases. Despite the increasing number of published studies on the relationship between obesity and HRQoL, there is still no consensus about the impact of excess weight on HRQoL (M. Almojarthe et al., 2020). It is unclear whether the negative effect of obesity on HRQoL decreases with age. More studies targeting subpopulations need to be conducted to explore complications of obesity and HRQoL.

Adjustment to obesity is influenced by both psychological and physical aspects. The process of lifestyle adaptation to excess weight starts at the time of diagnosis. Individuals with higher self-efficacy in health-related behaviours exhibit improved adjustment to obesity, lower motivation deterioration, and more successful long-term weight management. These observations highlight the importance of self-efficacy in lifestyle adaptation to obesity. Clinicians recognise the necessity to implement a prolonged multi-faceted intervention programme to attain for better lifelong adjustment to obesity and obesity-related chronic diseases.

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