Endocrine Prehabilitation

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Abstract

We conceptualize and define endocrine and metabolic prehabilitation as enhancement of physical, psychosocial and social health, prior to a planned medical, surgical or radiotherapeutic endocrine/metabolic intervention, in order to ensure optimal therapeutic outcomes during and after the procedure. This is similar to, but different from the process of endocrine rehabilitation, which follows endocrine therapy. All health care professionals, working as a team, should take responsibility of endocrine prehabilitation.

Keywords: Endocrinology, metabolism, pre-operative control, team-based care.

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Introduction

Many endocrine disorders fall in the domain of chronic disorders and require long term treatment coupled with life style related changes. Though effective treatment is available for most disorders, long term compliance and follow up is often challenging. In this manuscript we describe the role of metabolic rehabilitation prior to initiation of therapy to enhance optimal outcomes of endocrine therapy.

Rehabilitation

Rehabilitation defined as a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment.[1] Rehabilitation can be medical as well as psychological, and is offered by medical and surgical professionals, as well as psychologists and physiotherapists. Rehabilitation includes physical, occupational, speech, respiratory, cognitive behaviour, and vocational rehabilitation.

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The term 'endocrine rehabilitation' has been coined, and promoted, by Sonino and Fava, as a novel psychosomatic approach. They define rehabilitation of endocrine patients as "*the sum of activities required to ensure them the best physical, mental and social conditions so that they may progress toward an optimal state of health*"[2] Endocrine rehabilitation is indicated when anticipated recovery or function is not achieved, physical or social functioning declines, abnormal illness behaviour or psychiatric comorbidity persists, or health-damaging behaviour/lifestyle is noted.

Prehabilitation

Prehabilitation, or prehab, a short form of preoperative rehabilitation, refers to multi-disciplinary healthcare interventions which aims to attenuate side effects of medical or surgical intervention.[3] A wide range of services, similar to those listed in the preceding section on rehabilitation are used. The term is usually used in the context of surgery, and has not been utilized in the field of endocrinology so far.

Endocrine Prehabilitation

Endocrine rehabilitation is defined as enhancement of physical, psychosocial and social health, prior to a planned medical, surgical or radiotherapeutic endocrine/metabolic intervention, in order to ensure optimal therapeutic outcomes during and after the procedure. Endocrine rehabilitation is a multidisciplinary process led by the endocrinologist. Depending upon the specific clinical challenge, expertise from endocrine nursing, education, physiotherapy, orthopaedics, psychology and nutrition may be required. In specific cases, help from colleagues in ophthalmology, obstetrics and other specialties may be needed.

Spectrum and Scope

We suggest a simple framework to help understand the concept of endocrine and metabolic prehabilitation, and place various interventions in their appropriate slot. This rubric helps the health care team, health system managers, the endocrine patient, and caregivers, in their journey towards better holistic health. The examples in this comprehensive table (Table 1) highlight the extensive role of prehabilitation in endocrine praxis.

We also take the opportunity to suggest a pragmatic rubric for endocrine rehabilitation. In Table 2, we share

Table-1: Exemplars Of Endocrine Prehabilitation

Intervention	Nutritional	Exercise	Medical	Surgical	Radio-therapeutic
Nutrition therapy	Gradual dietary changes to minimise discomfort of change and maximise adherence/persistence	Fluid, electrolyte, calorie optimisation before sports activities; increase in protein intake to optimise muscle gain after resistance training	Dietary changes, to minimise side effects of drugs, e.g., low fat diet with orlistat; low carbohydrate diet with acarbose; small sized portions with GLP1RA	Pre-conception or pre-operative weight optimisation to improve natal or post surgical outcomes	Avoidance of iodine supplements prior to radioiodine therapy
Physiotherapy/exercise physiology	Timing of exercise/sports activities to match glycaemic profiles	Balanced and flexibility exercise to precede aerobics; low impact exercises to precede high impact activity	Postural training before use of drugs like bisphosphonates, oral semaglutide	Muscle-building exercise and chest physiotherapy prior to endocrine surgery with expected immobilization for prolonged periods	Plan to shift to indoor or secluded sports prior to radioactive therapy
Behavioural therapy	Intensive behavioural therapy (IBT) prior to/with medical nutritional therapy (MNT)	IBT prior to/with exercise therapy	Resilience/coping skills training/ adequate patient education and self care management	Resilience/coping skills training/ adequate patient education and self care management	Appropriate patient counselling
Pharmacological therapy	Appetite suppressants as adjuvant to MNT	Calcium, vitamin D, supplement of deficient hormones prior to intensive exercise regimens	Use of drugs to pre-empt side effects, e.g., proton pump inhibitors	Use of liraglutide prior to bariatric surgery	Discontinuation of anti-thyroid medication prior radioactive iodine administration
Medical/surgical specialized therapy	Scheduling surgery in persons with diabetes early morning to prevent prolonged fasting	Sports medicine interventions to facilitate active exercise, to pre-empt injury	Low vision aids in diabetic retinopathy, debulking of infections/ endocrine tumours	Pre-operative control, in pheochromocytoma, diabetes Cushing's syndrome	Medical optimization prior to radiotherapy nuclear medicine

Table-2: Endocrine Rehabilitation.

Domain	Description/examples
Nutritional support	Adequate macronutrient and micronutrient intake
Exercise/physiotherapy	Appropriate exercise, physiotherapy; use of motility aids
Behavioural therapy/ psychological support	Stress management; coping skills training; resilience training
Environmental modulation	Person-friendly environment to reduce risk of falls
Endocrine therapy	Optimisation of endocrine function

examples of how endocrine intervention can help in post-operative or post-procedure optimization of health.

Summary

Endocrine prehabilitation, including metabolic prehabilitation, should be developed as a part of endocrine therapeutics. Researchers, practitioners and students should understand and highlight the importance of this field, and utilize it to ensure optimal outcomes in management of endocrine disease.

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References

1. Rehabilitation. Available at: https://www.who.int/news-room/fact-sheets/detail/rehabilitation. Last accessed on 11 October 2022
2. Sonino N, Fava GA. Rehabilitation in endocrine patients: a novel psychosomatic approach. Psychother Psychosom. 2007;76:319-24.
3. Durrand J, Hackett R, Yates D, Danjoux G. Prehabilitation. Perioper Med–Current Controv. 2016:15-47.

Geriatric Goalposts: Of Independence And Interdependence

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Abstract

Our elder population has a unique set of needs and necessities, challenges and concerns. This reflects in the approach of geriatric medicine, which aims to ensure functional freedom and independence, as well as healthy ageing, of older citizens. We propose another, higher, aim of geriatric medicine: that is interdependence. This creates a spirit of optimism, in persons of geriatric age group as well as in their health care providers, who are able to interpret goals of medical care in a broader perspective.

Keywords: ADL, geriatrics, gerontology, independence, interdependence, Person centred care.

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Geriatric Medicine

Geriatric medicine is a rapidly evolving field of medicine.[1] Enhanced understanding of the physiological characteristics of our older population, the clinical manifestation of disease in them, and their unique response to drug interventions, has helped us to improve the quality of geriatric care. One of the geriatric-specific issues in medical care is individualization of therapeutic targets. Conventional teaching suggests that achieving a shift from dependence to independence is the overarching aim of geriatric medicine.[2] While this is certainly true, we suggest another, and broader, goal for geriatrics: interdependence.

Interdependence

Interdependence, as opposed to independence, is a concept that finds traction in sociology.[3] It has relevance in economics, politics and coaching as well. It is in medicine, however, that interdependence flourishes. As members of the health care team, and as part of the health care ecosystem, we are interdependent on each other for survival and success. Interdependence not only sustains us, but helps us evolve as professionals, as well as human beings. As humans we can not be but interdependent on each other, right from womb to tomb.

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Geriatric Goalposts

A similar thought process can be included in geriatric goalposts: achieving interdependence in an older person, and her/his social ecosystem, should be targeted as an accomplishment of geriatric care. How does this help us improve the quality of care we offer our patients? First of all, it reminds us that health is not just an individual construct, but is influenced by family and societal ties. Health of an individual not only depends on physical, mental aspects but also on spiritual and social aspects. Whatever actions we undertake, and interventions that we suggest, are influenced by the social milieu of the individual. This, in fact, is the crux of social gerontology.[4]

Secondly, interdependence helps achieve not only better psychosocial health, but improve biophysical outcomes as well. A 20-year prospective cohort study of 7626 participants[5] showed that interdependence and self-acceptance decreased mortality risk by 17%, and added two years to life. Thus interdependence is not only an aim in itself, but a tool to achieve longevity as well.

Thirdly, health care professionals need to be aware of the concept of interdependence towards geriatric population and it's benefit in geriatric care. We need to make people understand that each of them has a uniqueness to contribute in others life and in case of geriatric population, it's their unique experiences in life that they can contribute for others to learn from.

Thirdly, interdependence may be viewed as an acceptable outcome in persons who feel that they are not fully independent. In geriatrics, patients complain of lack of satisfaction, as they are unable to reconcile with changing structure and function. The concept of independence helps bring acceptance, serenity and calmness, by highlighting the strengths of the concerned individual. A senior citizen who is able to contribute to family and society in any manner, by sharing blessings and wisdom, by spreading happiness and harmony, will accept her/his health status happily, even if she/he is dependent upon others for a few activities of daily living (ADL). This is the essence of interdependence.

We Too Are Interdependent

Interdependence manifests in many ways, including the conceptualization and crafting of this article. We acknowledge, with gratitude, the learnings and insights shared with us by our elders, both at home, and in the clinic. We continue to evolve, and to improve, while serving the elders of our nation. In the spirit of interdependence, we seek their blessings and beatitude.

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References

1. Blachman NL, Blaum CS, Zabar S. Reasons geriatrics fellows choose geriatrics as a career, and implications for workforce recruitment. Gerontol. Geriatr. Educ.2021;42:38-45.
2. Sahu D, Pradhan B, Khasnobish A, Verma S, Kim D, Pal K. The Internet of Things in geriatric healthcare. J. Healthc. Eng. 2021;2021:1-16.
3. Wolf T, Jahn S, Hammerschmidt M, Weiger WH. Competition versus cooperation: How technology-facilitated social interdependence initiates the self-improvement chain. Int. J. Mark. Res. 2021;38:472-91.
4. Kim ES, Tkatch R, Martin D, MacLeod S, Sandy L, Yeh C. Resilient aging: psychological well-being and social well-being as targets for the promotion of healthy aging. Gerontol.Geriatr Med. 2021; 7:23337214211002951.
5. Ng R, Allore HG, Levy BR. Self-acceptance and interdependence promote longevity: Evidence from a 20-year prospective cohort study. International Int. J. Environ. Res. Public Health. 2020;17:5980.