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Invitation to do remission of pre-diabetes to normoglycemia

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ABSTRACT

By integrating health coaching into maritime medical clinics, we can provide tailored support to individuals at risk of developing diabetes and empower them to take control of their health.

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Keywords: prediabetes, remission, reversion, maritime, seafarers, health-coaching, lifestyle, protocol

Seafarers and fishermen have increased risks of diabetes and hypertension as part of the metabolic syndrome, including overweight and obesity. They have biannual mandatory fit-for-duty medical examinations, but valid diagnostics for pre-diabetes and diabetes type 2 are absent, and valuable information for early prevention is lost. The answers to three stepwise research questions have opened up to try out pre-diabetes remission among the seafarers.

Research question 1: "Why should urine sticks be abandoned and replaced by HbA1c test?"

Urine dipstick has erroneously been used for diagnosis of diabetes mellitus in the maritime health examinations for decades. Due to more than 80% false negatives and lack of identification of pre-diabetes for early prevention, the method should be abandoned and replaced by Hb1Ac or Fasting Blood Glucose [1–3].

Research question 2: "What is the prevalence of pre-diabetes and diabetes among seafarers and fishermen in the age groups and the BMI groups"?

This study aims to investigate the prevalence of pre-diabetes and diabetes among seafarers and fishermen, using the HbA1c test and/or Fasting Glucose, to identify the predictive factors associated with the development of diabetes.

As the specific prevalence of both pre-diabetes and diabetes mellitus was unknown in the age groups and the levels of body mass index, the objective is to study the prevalence of Hb1Ac of random samples of all seafarers from the maritime health examinations and not only by including data for those at the highest health risk. Based on the preliminary data from the clinics, 24% and 34% in the age groups 30–39 and 40+, respectively, are pre-diabetic, with a potential to do a remission to normoglycemia, and 1–2% have diabetes mellitus type 2.

Twenty-two percent of those with overweight and 41% of those with obesity have either diabetes mellitus or pre-diabetes [4]. These findings are concerning, as they suggest that a significant proportion of seafarers are at risk of developing diabetes-related complications, which can have serious consequences for their health and well-being, as well as their ability to perform their jobs safely and effectively. Furthermore, these results highlight the need for targeted interventions and health promotion strategies to prevent and manage diabetes among seafarers, particularly in the context of their unique occupational environment.

Research question 3:"How to reverse pre-diabetes to normal glycemia?"

Given the promising research on pre-diabetes remission by coaching in non-maritime areas, we are challenged to try out similar health coaching in collaboration with maritime medical clinics [5–8]. The opportunity to use the seafarer' and fishermen's health examinations reduces the costs and the number of non-responders and increases

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project quality by using certified coaches, with knowledge of the seafarers' work, health, life, and how to convert pre-diabetes to normal.

By using the existing infrastructure of maritime medical clinics and utilizing certified health coaches with specialized knowledge, we have the opportunity to restructure how we approach prediabetes management among seafarers and other professionals in maritime industries.

This study will investigate the effectiveness of a multi-faceted intervention, including health education, diet, and physical activity, in preventing the progression from pre-diabetes to diabetes among seafarers and fishermen. The intervention will be implemented as a before and after study followed by a randomized controlled trial design, with a control group receiving usual care. The study will assess the impact of the intervention on the incidence of diabetes, as well as on cardiovascular risk factors, such as blood pressure, lipid profiles, and body mass index.

A NEW FRONTIER IN MARITIME HEALTH

While prediabetes is a significant health concern for the general population, it poses a unique challenge for individuals working in the maritime sector due to the nature of their work and lifestyle. By integrating health coaching into maritime medical clinics, we can provide tailored support to individuals at risk of developing diabetes and empower them to take control of their health.

A pilot program invites volunteers to coach seafarers and other professionals for free over several weeks, we can gather valuable insights and refine our approach before scaling up to larger study populations. Additionally, by sharing learning materials and best practices at industry workshops and conferences, we can inspire others to join us in this important work.

In conclusion, the integration of health coaching into maritime clinics presents a unique opportunity to address the challenge of prediabetes among seafarers and other professionals in maritime industries. By joining the expertise of health coaches and collaborating with industry stakeholders, we can drive meaningful change and empower individuals to take control of their health. Together, we can free the potential of prediabetes remission and create a healthier future for all. The tools, the procedures, and the research protocol for a 16-week coaching schedule and learning materials are freely available [9]. Introduction to this intervention research will be given at a NIVA workshop in 2025 and various international scientific conferences.

ARTICLE INFORMATION AND DECLARATIONS

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Ethics statement: No personal issues are included.

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Conflict of interest: None declared.

Supplementary material: Links to the research protocol are included.

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