

Good Life with Osteoarthritis in Denmark (GLA:D®)

Last updated: July 2024

Summary

- Arthritis is common among older adults due to the gradual deterioration of joints over time, resulting in pain and swelling around the joints that limit movement.
- Osteoarthritis (OA) is the second most prevalent chronic condition in New Brunswick (NB), and residents lack access to a publicly funded prevention and management program. With a growing aging population, New Brunswickers face long surgical waitlists for knee and hip replacements.
- In response, the Horizon Health Network implemented the Good Life with Osteoarthritis in Denmark (GLA:D®) program in seven Horizon Health facilities across NB. This non-surgical intervention aims to help patients living with severe OA improve pain symptoms, improve quality of life and delay surgical intervention.
- The GLA:D® program is designed to slow the progression of knee and hip osteoarthritis (OA) and educate patients to better manage symptoms through;
 - Individual assessments
 - Two education sessions, each lasting 45 to 60 minutes
 - 12 neuromuscular exercise classes (2 classes per week for 6 weeks)
- The program's impact was evaluated by comparing participants' knowledge and physical abilities from the beginning of the GLA:D® program to the program's completion.
- A total of 720 patients with complete follow-up information were included in the evaluation, comprising 181 males and 539 females.
- Types of OA in the project included:
 - Knee OA (61.9%),
 - Hip OA (24.1%)
 - Both Knee and Hip OA (14.0%)

HSPF Focus Area	Increasing independence, quality of life, and promoting healthy lifestyle
Project Start & End Date	July 1 ,2022 - March 31, 2024
Organization/Agency	Horizon Health Network
Location	Saint John, Moncton, Fredericton, Upper River Valley and Miramachi
Principal Investigator(s)	Tracy Underwood and Matthew Evans

Indicator	Impact / Outcome / Result	Quote
Decreased pain level	The analysis showed a 30% reduction in patients' pain levels after participating in the program. The decrease was consistent across both males and females, regardless of age or the type of osteoarthritis.	<i>"Before starting the program, I could only walk outside or on the treadmill for a short time, about 15 to 20 minutes, before pain and discomfort set in. Now I can walk for an hour either way and have only a little soreness and stiffness in my knee, which is mostly gone the next day."</i>
	Overall, 714 of the 720 participants who completed the program reported high satisfaction with the program.	
Improvement in functional capacity	The number of chair-sit stands completed by participants in 30 seconds increased by 3.7, with younger patients (under 65) showing more improvement. Patients with knee OA improved slightly more than those with hip OA or both. Both males and females showed similar levels of improvement.	<i>"I learned the proper techniques in doing the exercises, and it made it possible for us, the participants, to ask questions and get answers during the exercises,"</i>

Indicator	Impact / Outcome / Result
Improvement in functional capacity	The walking speed of participants also improved clinically, increasing from 1.3 meters per second to 1.5 meters per second. These improvements were consistent across different ages, sexes, and types of OA.
Reduced need for surgical intervention	Among the 81 individuals who changed their decisions about surgery, 54 (67%) opted out of surgery after participating in the program, while 27 (33%) who initially declined surgery chose to proceed with it.

Methods and Comparison

Quantitative methods were used to estimate the impact of the intervention. To calculate the changes in participant parameters, data collected at enrolment were compared to data collected after the completion of exercises and education sessions using statistical methods. The main parameters included;

- Pain levels (numeric pain scale 0-10)
- Functional capacity (number of chair stands and walking speed)
- Reduced need for surgical intervention (yes/no)

The changes in these parameters before and after the program were also compared between women and men, by age (under 65 vs. over 65) and by type of OA (knee OA vs. hip OA).

Conclusions and Lessons Learned

- Overall, the results of the GLA:D® project demonstrated that program participants experienced reduced pain and improved functional capacity, suggesting that this non-surgical approach is effective in enhancing the quality of life for seniors living with OA.
- The high satisfaction with the intervention and participants' decision to opt out of surgery suggest that patients are likely to prefer less invasive methods.
- The consistency in pain reduction between men and women, and across age groups indicates that the intervention is universally applicable, offering benefits regardless of the patient's age or gender.
- The observed higher improvements in functional mobility among younger patients highlight the need for timely intervention, as delays in treatment could potentially reduce functional gains. Findings equally suggest the need for tailored treatment for specific OA types.

Recommendations

To further understand the impact of the GLA:D® program on seniors, some additional research questions have been identified for future research:

- How long do GLA:D® participants sustain improvements?
- How do the frequency and duration of continuing GLA:D® exercises and education sessions impact sustained improvements? Are patients in New Brunswick more prepared for surgery after participating in GLA:D®?
- Does the knowledge gained in the program enable patients to experience shorter hospital stays after surgery?
- Are there differences in wait times for hip and knee joint surgeries before and after the implementation of GLA:D® in New Brunswick, and do these differences vary between urban and rural settings?
- How do other factors such as social, familial, financial, physical health and mental health influence OA patients' desire for surgery?

Next Steps

Permanent funding has been secured from the Government of New Brunswick to sustain project delivery across the program sites as a full integration into the operations of the Horizon Health Network.

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