



Background and Context for Change

- Best practice recommends cardiac rehabilitation (CR) for patients diagnosed with Postural Orthostatic Tachycardia Syndrome (POTS), a form of dysautonomia.¹
- Since 2017, numbers of referrals to Women's College Hospital's cardiac rehabilitation program have increased for people diagnosed with POTS.
- Traditional approaches must be modified for these patients.
- Treatment involves group sessions delivered by a multidisciplinary team.
- Travel, distance and limited access are known barriers to treatment that were exacerbated by the COVID-19 pandemic.
- Women's College Hospital has been incorporating virtual care into its Strategic plan and Quality Improvement plan since 2019.
- Women's College Hospital (WCH) developed an innovative, virtual CR program to maintain service levels to replace previous in-person group format.

Aim Statement

Our aim was to deliver equivalent multidisciplinary CR to POTS patients without the need for in-person care, through virtual means in a group setting. This initial phase was part of a broader objective to reach more POTS patients further afield in non-pandemic times.

Family of Measures

Outcome Measures: Attendance of patient to each virtual session. Patient satisfaction was received in form of a discussion in a focus group environment. Symptomology was assessed but no change was expected in this short format of care delivery.

Balancing Measure: distance to patients reached by virtual means when compared to previous groups. (*initial examination*)

Theory of Change

Staff designed a specialized weekly program based in Social Cognitive Theory² concepts including peer support, goal setting, action planning and behavior strategies to educate themselves and manage their symptoms. This is the main approach that underlies Cardiac rehabilitation programming. Modifications needed to be made for this vulnerable group. Virtual care offers the care coming to this socially isolated group, to their home, in which we felt would improve attendance.

Impact of Problem

- Patients living with dysautonomia, specifically POTS tend to affect women more than men, (ratio 1:5 women).
- It is more prevalent in premenopausal women, younger than traditional cardiovascular CR patients.
- POTS is characterized by cardiac and non-cardiac symptoms including exercise intolerance.
- Social isolation and lack of support are common complaints heard from these patients.
- Attending in person setting, in a group, can be difficult for people who have sitting and standing intolerance due to symptoms of presyncope or syncope, or who can't travel to a hospital in downtown Toronto for care.
- We felt that virtual programming would help to reduce this barrier for patients receiving CR at home vs. hospital..

Virtual Results

- 3 Plan-Do-Study-Act Quality Improvement cycles were conducted
- Feedback from staff and patients were used to either increase topics for discussion and the addition of an extra session and team member. (Pharmacy)
- 72-100% attendance was seen in the virtual sessions which was comparable to the 2 in-person sessions that were hosted. We noted as number of sessions increased, then attendance did drop. (72%)As well as if we changed regularity of day of the week, then attendance dropped as well. (65% for 1 session change.)
- Previously could only see Greater Toronto Area dwelling patients but with virtual care was able to reach up to 500 km (Elliot Lake) and 200 km (Ottawa) from Central Toronto. In person sessions range was 0.6 km to 83.8km. Virtual care reached from 1.8km to 586 km away.
- Patient feedback was positive:

"Virtual made this care possible! "

"I could not have done this in person! "

Conclusions

- Attendance to virtual care was maintained when switching from in person care. No digital issues arose with these 3 groups.
- Positive feedback from patients appreciating this mode of group education via virtual means.
- Knowledge that digital divide concerns will still exist for some of the population (screened before we see them) and collaboration with other support networks will aid in reaching those patients.
- Expanding CR care to more POTS patients in the Greater Toronto Area and beyond is now a promising option. Teams must be well versed in virtual care, self-management, and peer support to address the CR needs of this unique patient population via virtual modalities.

Next Steps

- Continued virtual group offerings will happen over the next 6 months, and then review of feedback, attendance and staff suggestions will be incorporated. We will examine the referral pattern to see if it continues to expand beyond the Greater Toronto Area into Ontario.
- Learning from this virtual care model will be shared across the organization as it comes out of the COVID-19 Pandemic but continues to embrace virtual care.
- Psychoeducation interventions of Cardiac rehabilitation such as self-management, support from peers, stress management and self-care strategies are able to be implemented in a virtual domain to this vulnerable population.

Acknowledgements

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References:

- 1) Raj, S. et al. Society Position Statement Canadian Cardiovascular Society Position Statement on Postural Orthostatic Tachycardia Syndrome (POTS) and Related Disorders of Chronic Orthostatic Intolerance. *Can. J. of Cardiology*. 36 (2020) 357-372.
- 2) Behavioral Theories and Strategies for Promotion Exercise. (2016) *ACSM's Guidelines for Exercise Testing and Prescription*. Tenth Edition. Chapter 12, page 377-404.