

## Appendices

**Appendix 1.** Borcovek and Nau acceptability questionnaire

1. How logical does the therapy offered to you seem?
2. How successfully do you think this treatment will be?
3. How confident would you be in recommending this treatment to a friend?
4. How much improvement in your physical activity do you think will occur?
5. How much do you really <i>feel</i> that therapy will help you to increase your physical activity?
6. How much improvement in your physical activity do you really <i>feel</i> will occur?

## Appendix 2. Motivational interviewing

Motivational interviewing is an evidence based person-centred counselling intervention, used to target a particular behaviour change. To facilitate delivery of motivational interviewing as intended, the interviewer must undergo an accredited 2-day training program (delivered by a clinician from the motivational interviewing network of trainers (MINT)), 1:1 coaching and be graded proficient according to the motivational interviewing treatment integrity (MITI) code. Motivational interviewing incorporates microskills such as open-ended questions, affirmations, reflective listening and summarising (OARS). These microskills are delivered within the motivational interviewing spirit which includes partnership, acceptance, evocation and compassion. Motivational interviewing encompasses four key processes: engagement, focusing, evoking and planning.

*Engagement:* to develop a working relationship with the interviewee. This is an ongoing and important part of the process as you are seeking to change their behaviour.

*Focusing:* to focus on what the interviewee is wants to and is willing to change at the time. E.g. the interviewee may not be willing to make big changes initially so it is important to work with them where they are, not where the interviewer thinks they should be.

*Evoking:* to draw out the interviewee's own motivation and ideas for behaviour change. E.g. a therapist may want a patient to increase their physical activity to help their functional outcomes, compared to the patient who wants to be able to get on and off the ground easily to play with their grandchildren. Evoking the patient's motivation is far more powerful and more likely to lead to behaviour change.

*Planning:* to develop goals collaboratively and make a plan for how to achieve them. E.g. the interviewee may have an idea of what they can do to get started right away, and may be able to develop a plan to gradually make additional changes as time goes on.

It is important to acknowledge that multiple processes may occur at one time, and may not be in a linear sequence. The pace and sequence will be different for each individual and it is up the interviewer and interviewee to navigate this together during each session.

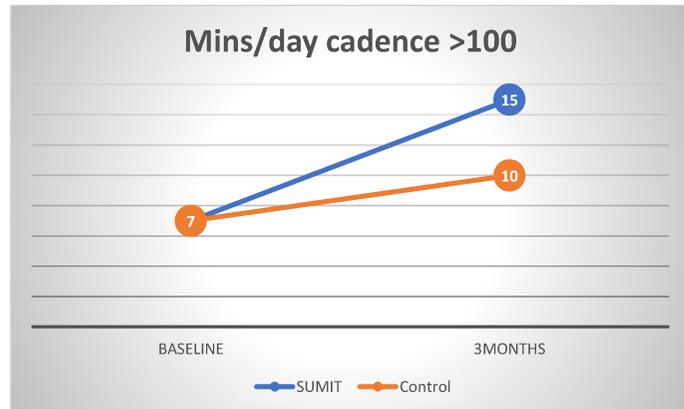
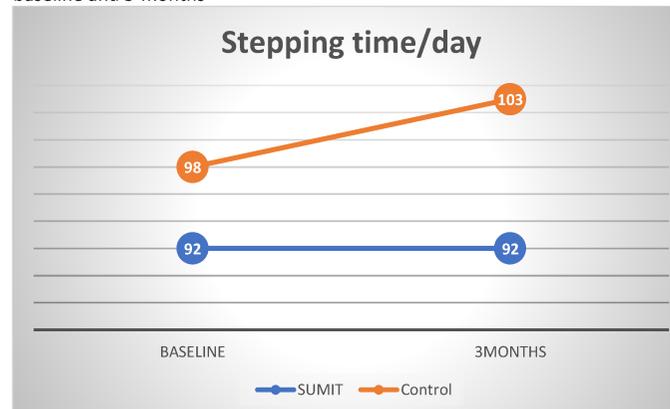
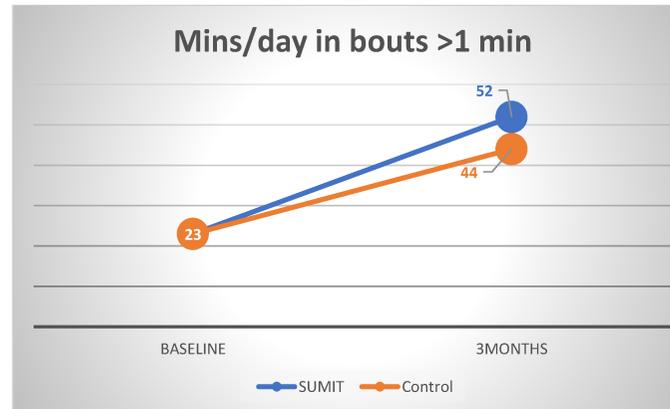
A real-life example of the processes from this trial includes:

Participant 3 (P3) had never been exposed to motivational interview before, learned from GLA:D® that they should be doing regular exercise for their knee and had previously had fluctuating dedication to gym since being aged in their 20's. **Engagement:** P3 talked with their physio about their love of gardening, social events, seeing family and volunteering. The practitioner using MI connects with their client through displaying an interest through open ended questions (e.g. *tell me more about what you like about gardening*) and demonstrating active listening through use of reflective listening (e.g. *family is really important to you*) **Focusing:** P3 wanted to make a lasting change to their physical activity participations because they had seen and felt the benefits of being active as well as continuing to incorporate knee strength exercises in their life. Being active brought P3 joy, and facilitated other important activities. The practitioner using MI facilitates this process through open ended questions (e.g. *what are the major benefits of you being more active*) and reflections (e.g., *being more active would make a real difference to your life and you're ready to do more*). **Evoking:** The practitioner using MI utilises evocation throughout the session, for instance with respect to helping the client focus open ended questions such as *what would you be willing to do to increase your activity?* can assist to facilitate such as P3 noting they are willing to incorporate more walking and add some upper body exercises to their gym routine for a full body workout **Planning:** Planning relates to evoking specifics from the client about what they will do and when. In this context P3 planned add walks on days they didn't attend the gym, and started using their smart phone step count to see how far they walked with certain activities, which could be used to measure future increases to walking.

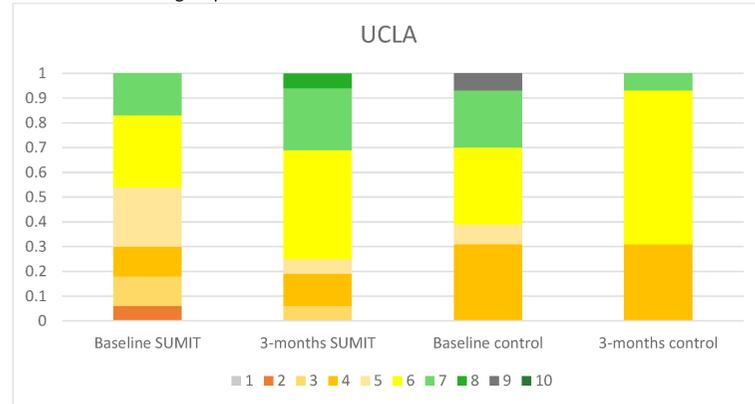
**Appendix 3.** University of California Los Angeles Physical Activity Scale

Question	Answer options:
<i>Please indicate which level of activity applies to you</i>	1 Wholly inactive: dependent on others: cannot leave residence
	2 Mostly inactive: restricted to minimal activities of daily living
	3 Sometimes participates in mild activities
	4 Regularly participates in mild activities, such as walking, limited housework, and limited shopping
	5 Sometimes participates in moderate activities
	6 Regularly participates in moderate activities, such as swimming and unlimited housework or shopping
	7 Regularly participates in active events, such as bicycling
	8 Regularly participates in very active events such as bowling or golf
	9 Sometimes participates in impact sports
	10 Regularly participates in impact sports such as jogging, tennis, skiing, acrobatics, ballet, heavy labour, or backpacking

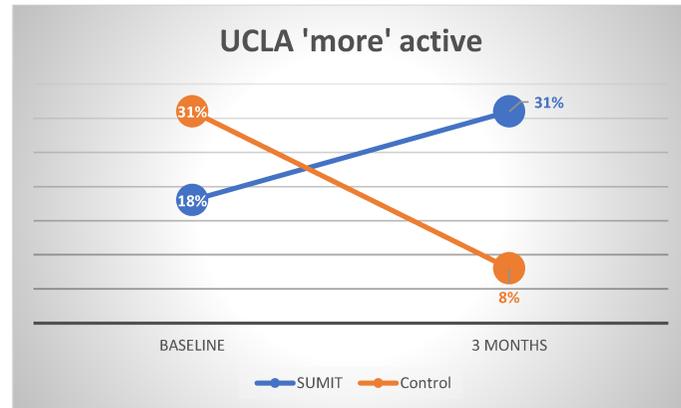
Legend: 'Less' active = responses 1-6 in yellow, 'more' active = responses 7-10 in green.

**Appendix 4a.** Total steps per day for SUMIT and control groups at baseline and 3-months**Appendix 4c.** Minutes per day with cadence >100 for SUMIT and control groups at baseline and 3-months**Appendix 4b.** Stepping time per day (mins) for SUMIT and control groups at baseline and 3-months**Appendix 4d.** Minutes per day in bouts >1min for SUMIT and control groups at baseline and 3-months

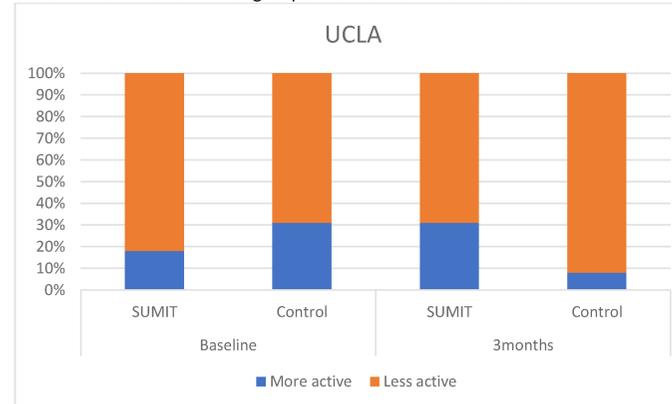
**Appendix 5a.** University of California Los Angeles physical activity scale raw scores for SUMIT and control groups at baseline and 3-months



**Appendix 5c.** Proportion of participants who are 'more' or 'less' active using the University of California Los Angeles physical activity scale for SUMIT and control groups at baseline and 3-months

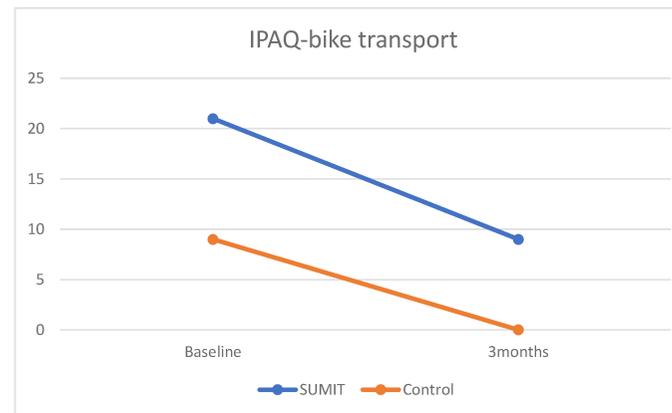


**Appendix 5b.** Dichotomised University of California Los Angeles physical activity scale for SUMIT and control groups at baseline and 3-months

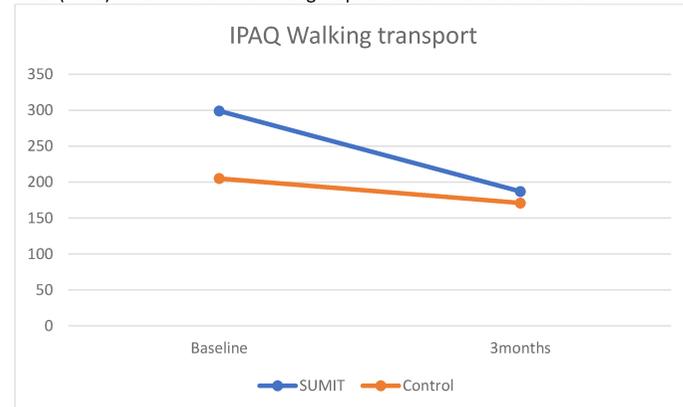


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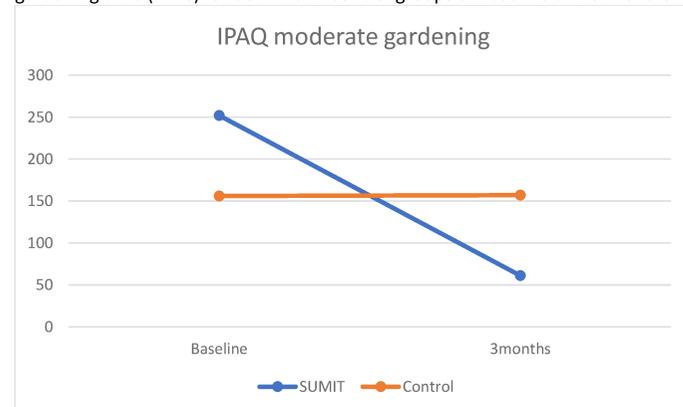
**Appendix 5d.** International Physical Activity Questionnaire long form bike transport time (mins) for SUMIT and control groups at baseline and 3-months



**Appendix 5e.** International Physical Activity Questionnaire long form walking transport time (mins) for SUMIT and control groups at baseline and 3-months

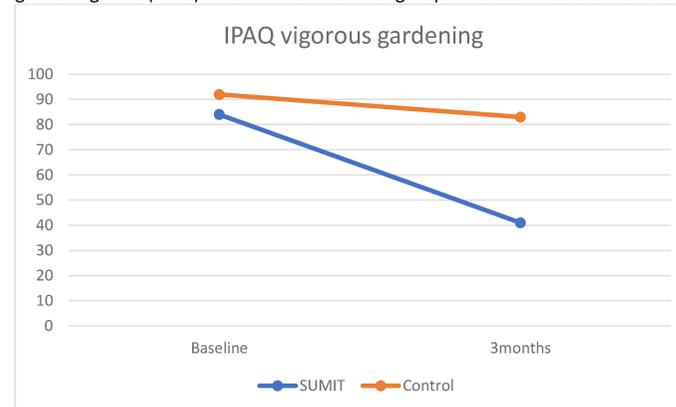


**Appendix 5g.** International Physical Activity Questionnaire long form moderate gardening time (mins) for SUMIT and control groups at baseline and 3-months

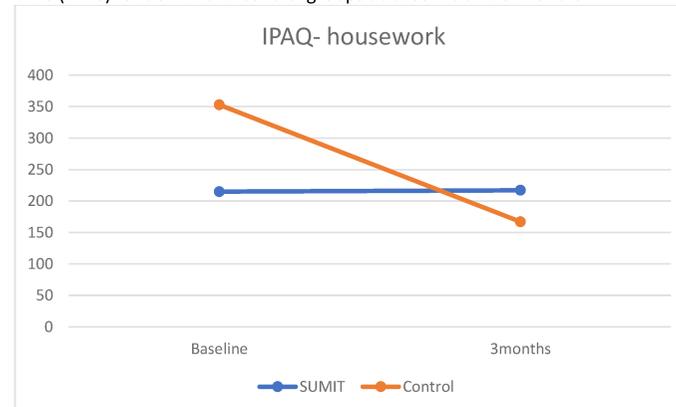


**Appendix 5i.** International Physical Activity Questionnaire long form leisure walking time (mins) for SUMIT and control groups at baseline and 3-months

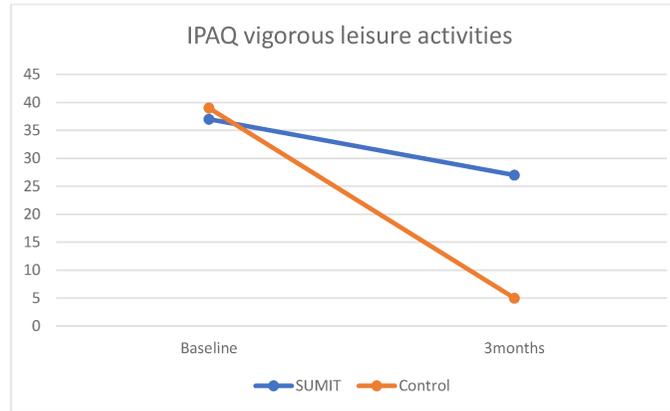
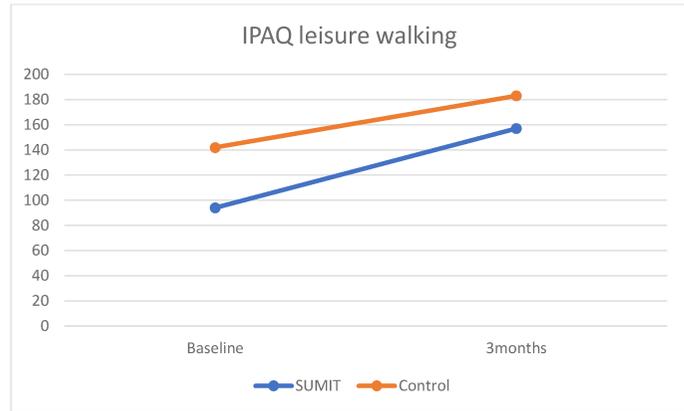
**Appendix 5f.** International Physical Activity Questionnaire long form vigorous gardening time (mins) for SUMIT and control groups at baseline and 3-months



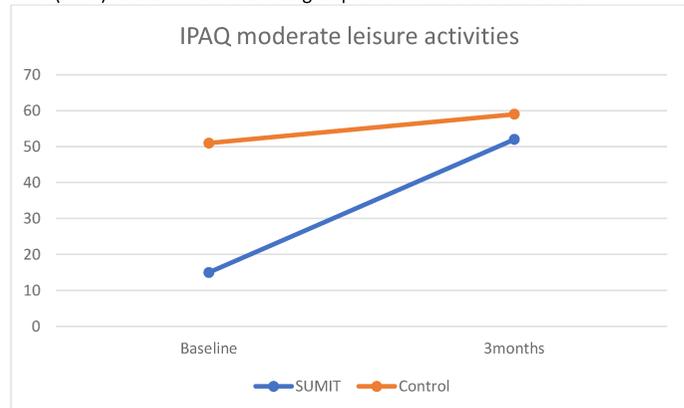
**Appendix 5h.** International Physical Activity Questionnaire long form housework time (mins) for SUMIT and control groups at baseline and 3-months

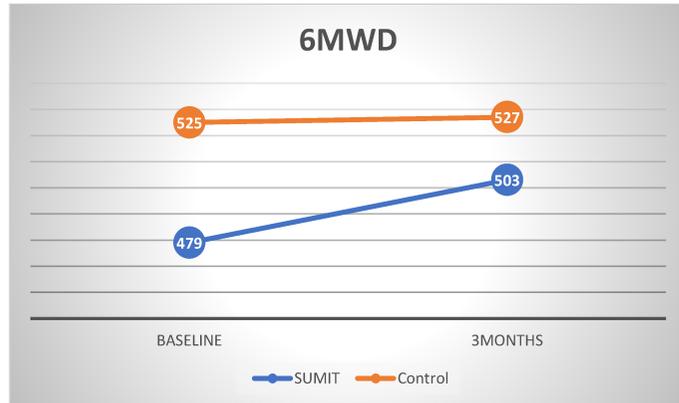
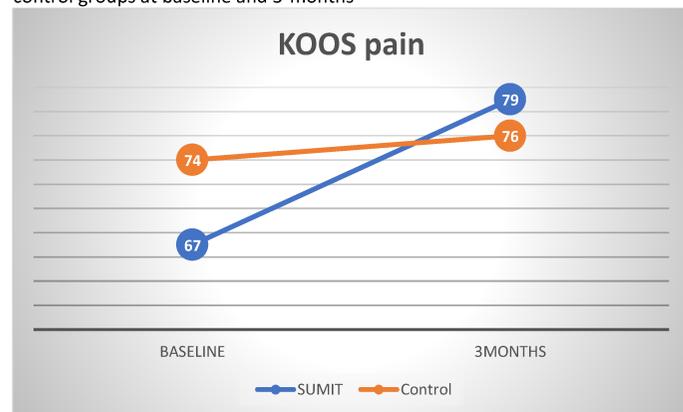
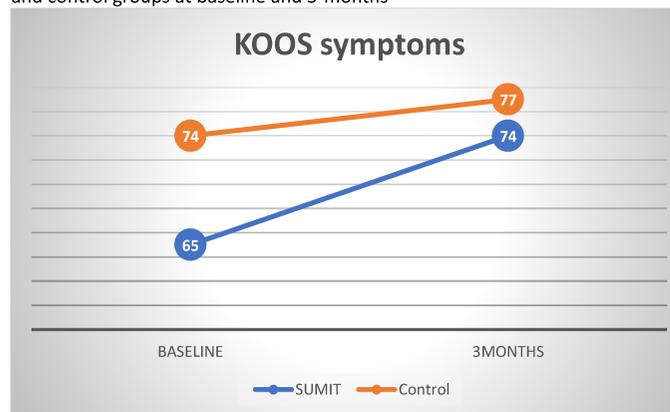


**Appendix 5j.** International Physical Activity Questionnaire long form vigorous leisure time (mins) for SUMIT and control groups at baseline and 3-months

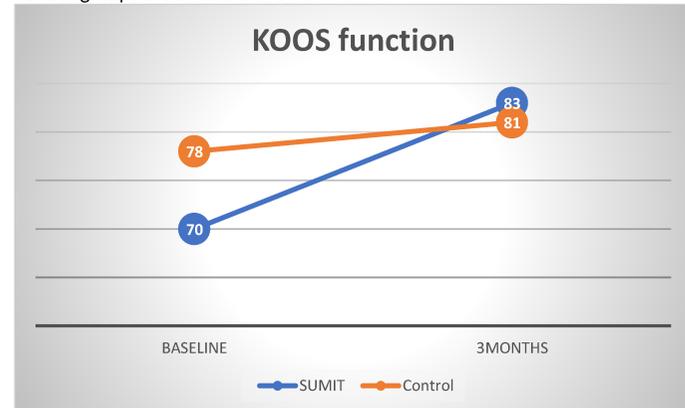


**Appendix 5k.** International Physical Activity Questionnaire long form moderate leisure time (mins) for SUMIT and control groups at baseline and 3-months

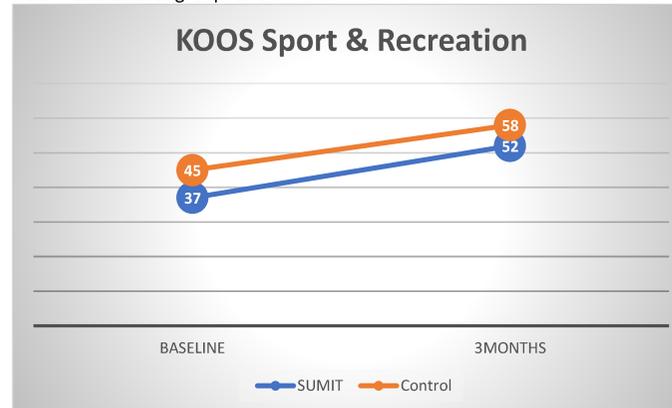


**Appendix 6.** 6-minute walk distance (m) for SUMIT and control groups at baseline and 3-months**Appendix 7a.** Knee Osteoarthritis Outcome Score pain subscale for SUMIT and control groups at baseline and 3-months**Appendix 7b.** Knee Osteoarthritis Outcome Score symptoms subscale for SUMIT and control groups at baseline and 3-months

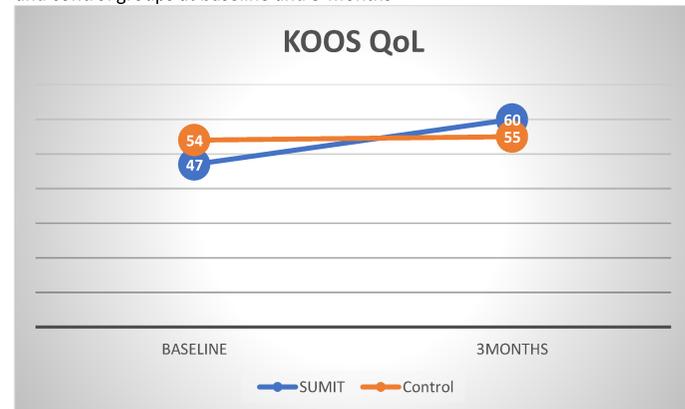
**Appendix 7c.** Knee Osteoarthritis Outcome Score function subscale for SUMIT and control groups at baseline and 3-months



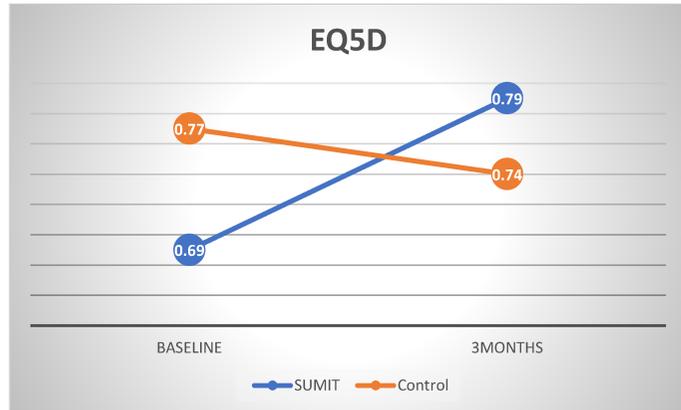
**Appendix 7d.** Knee Osteoarthritis Outcome Score sport & recreation subscale for SUMIT and control groups at baseline and 3-months



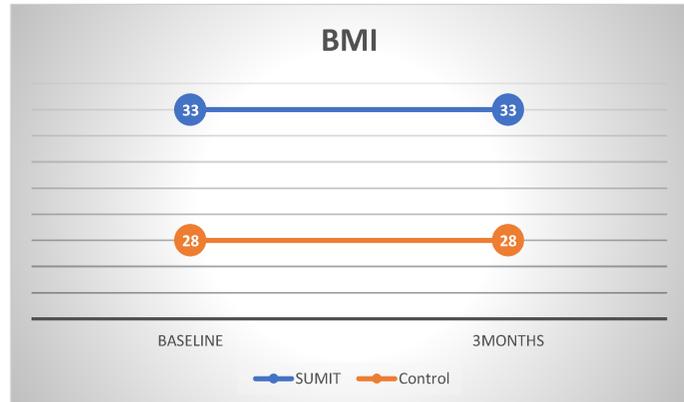
**Appendix 7e.** Knee Osteoarthritis Outcome Score quality of life subscale for SUMIT and control groups at baseline and 3-months



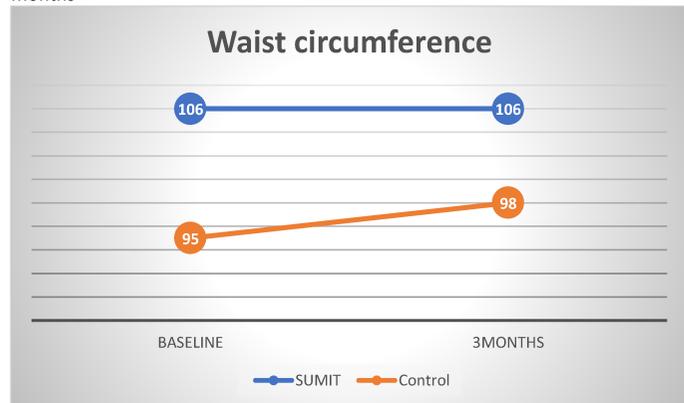
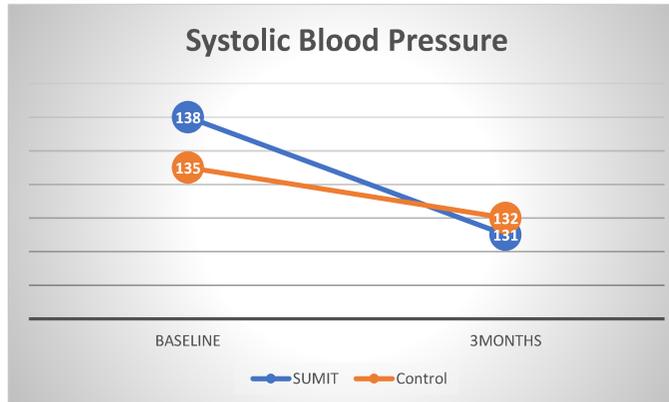
**Appendix 8.** Health-related quality of life for SUMIT and control groups at baseline and 3-months



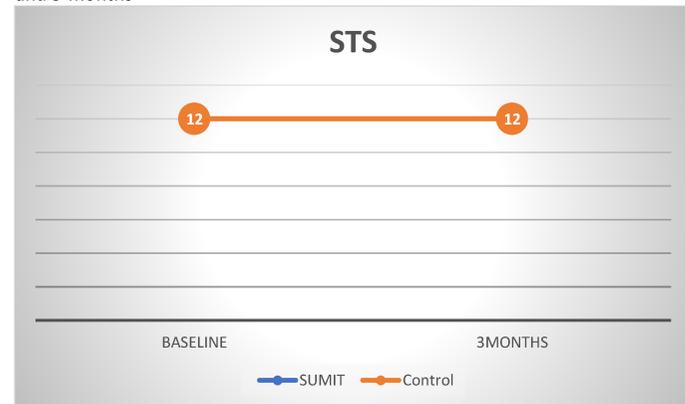
**Legend:** EQ5D= Euroqual 5-dimension 5-long

**Appendix 9a.** BMI for SUMIT and control groups at baseline and 3-months

**Legend:** BMI- body mass index

**Appendix 9c.** Waist circumference for SUMIT and control groups at baseline and 3-months**Appendix 9b.** Systolic blood pressure for SUMIT and control groups at baseline and 3-months

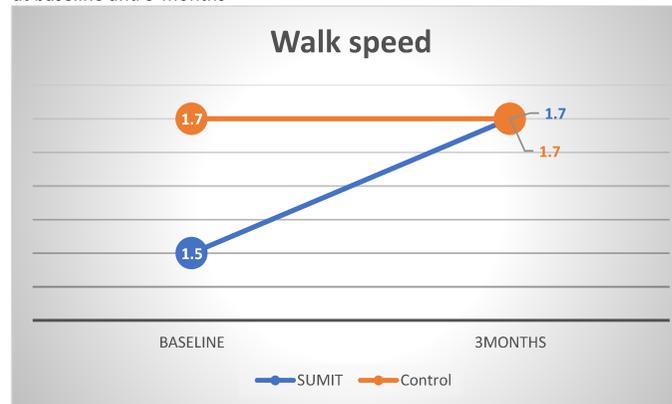
**Appendix 10a.** 30 second chair stand test for SUMIT and control groups at baseline and 3-months



**Legend:** STS= sit to stand

\*Both groups were the same and are overlapped

**Appendix 10b.** Walking speed measured by 40mWT for SUMIT and control groups at baseline and 3-months



**Legend:** 40mWT= 40 metre walk test