



# **ACTIVE LIVING BECOMES ACHIEVABLE (ALBA)**

**Evaluation - February 2020**

# Contents

<b>Introduction</b>	<b>3</b>
<b>The ALBA intervention</b>	<b>4</b>
<b>Method</b>	<b>5</b>
<b>Quantitative results</b>	<b>7</b>
<b>Qualitative results</b>	<b>11</b>
<b>Summary of findings</b>	<b>12</b>
<b>Conclusion</b>	<b>17</b>
<b>References</b>	<b>18</b>

## Introduction

According to the World Health Organisation (WHO), mental health conditions are a major contributor to the global burden of disease, with depression alone accounting for 4.3% of the global burden of disease and is one of the leading causes of disability (World Health Organisation, 2013). Epidemiological research in Scotland suggests that mental health conditions cost the NHS an estimated £10.7 billion per year (*Mental Health in Scotland*, 2014) with 17% of adults exhibiting possible symptoms of a mental health condition.

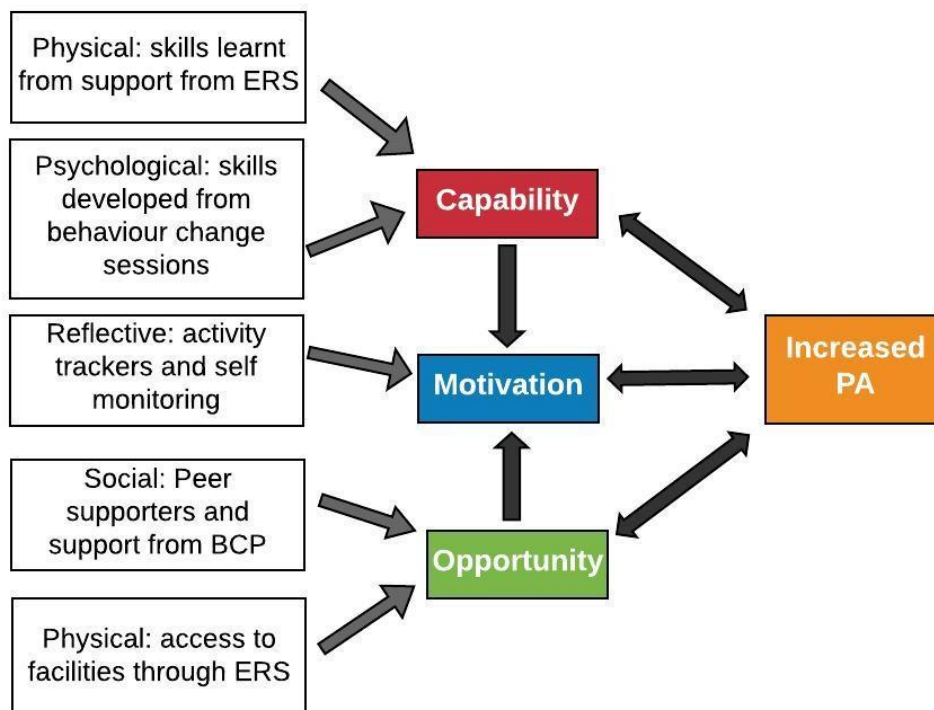
Physical Activity (PA) is linked with improved physical and mental health, with evidence showing that regular PA reduces the risk of coronary heart disease (CHD), type 2 diabetes and cancer. Substantial evidence has also been found to support the effectiveness of PA in reducing anxiety and depression (Schuch et al., 2018). Engagement in PA can also have a wide range of social benefits, such as improved quality of life, increased opportunities for social engagement, and enjoyment (Knapen, Vancampfort, Moriën, & Marchal, 2015).

Despite the well-established benefits of PA for mental health, the evidence suggests that people with mental health conditions are less active than the general population (Vancampfort et al., 2017). This has been attributed to the fact that individuals with mental health conditions face more barriers which may be associated with their mental health, such as dealing with side effects of psychiatric medication, low mood, lack of energy and tiredness, and motivational factors, such as being shy or embarrassed, and having a lack of support or encouragement which prevent them from becoming active. Therefore, people with mental health conditions need more support to become more active as they have more complex needs.

## The ALBA intervention

'Active Living Becomes Achievable' (ALBA) is a complex behaviour change intervention which aims to improve adherence to physical activity in mental health populations by delivering a behaviour change intervention with a cognitive behavioural approach alongside the existing exercise referral schemes. Increasing physical activity can help to improve both physical and mental health, and therefore can help to reduce the health inequalities faced by people with mental health conditions.

The ALBA intervention was designed to be based on the COM-B model. The COM-B model proposes that for someone to engage in a behaviour they must be physically and psychologically able (capability); have the social and physical opportunity (opportunity); and the want or need to do the behaviour more than any other competing behaviours at the moment (motivation). The intervention consisted of the following components: (a) weekly, and then fortnightly 1:1 face-to-face hourly meetings with a behaviour change practitioner (BCP) over the course of 16 weeks; (b) access to the exercise referral programme that was offered by the local leisure centre; (c) use of an activity tracker and the "Get Active" app, which was designed to increase motivation and facilitate self-monitoring of behaviour; and (d) access to peer supporters, who have been through the ALBA intervention and peer supporter training who can offer support outside of the sessions with the BCPs. How the ALBA components mapped onto the COM-B model are presented in the diagram below.



The ALBA intervention aligns with one of the central aims of the Mental Health Strategy 2017 – 2027, which is to improve the physical health of people with mental health conditions and improve the mental health of people with physical health conditions, in order to reduce the health inequality which sees premature mortality in both population groups. The ALBA intervention also aligns with Scottish Government’s Active Scotland Outcome Framework, which sets out the vision and goals for increasing PA, as ALBA aims to encourage and enable the inactive to become active (outcome 1) and supporting wellbeing and resilience in communities through PA and sport (outcome 5).

## Method

A mixed methods evaluation of the ALBA intervention was conducted.

The quantitative evaluation used a pre and post design, with an optional 6 to 12 months follow up period to evaluate ALBA. The following measures (see Table 1) were completed by participants at baseline and post intervention. Participants were also asked to provide demographic information.

The qualitative evaluation collected data through focus groups with participants held in each of the ALBA trial areas. Thematic analysis was conducted to identify the barriers and facilitators to participating in ALBA.

*Table 1 Measures used to Evaluate ALBA*

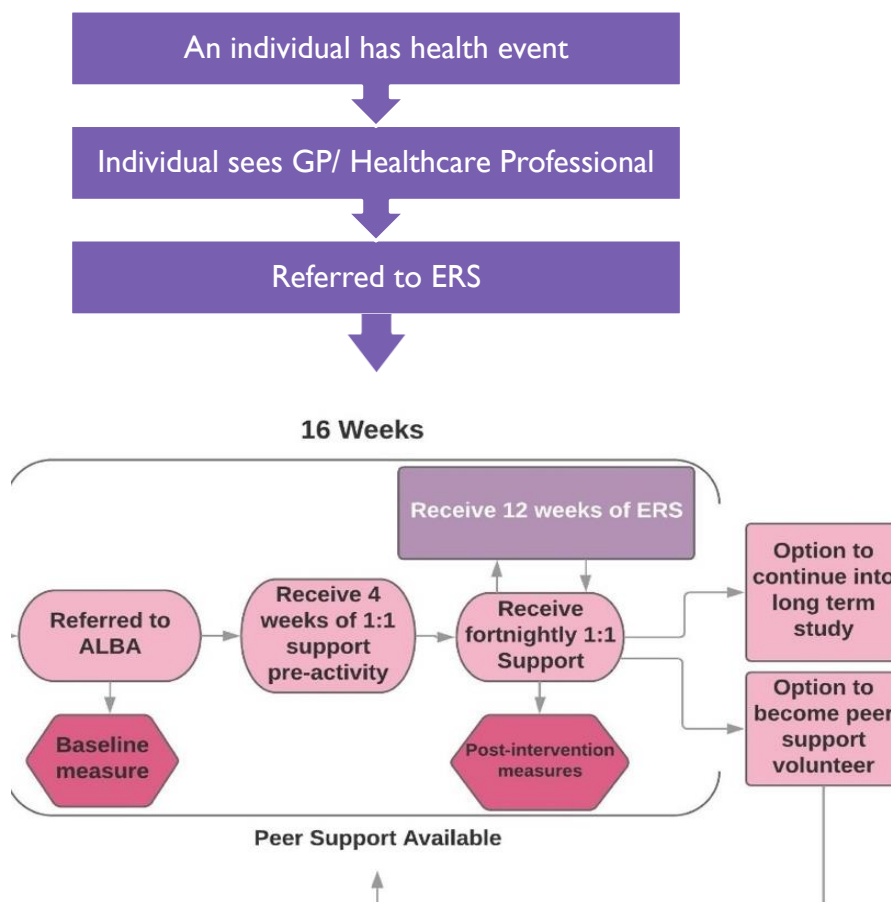
Measure	
<b>Scottish Physical Activity Questionnaire (SPAQ) (Lowther et al., 1999)</b>	A self-report questionnaire assessing seven-day recall of moderate and vigorous activity in minutes and incorporating a Stage of Exercise Behaviour Change instrument.
<b>Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) (Tennant et al., 2007)</b>	A self-report measure of mental wellbeing. It is a 14-item scale with 5 response categories, summed to provide a single score ranging from 14-70. The items are all worded positively and cover both feeling and functioning aspects of mental wellbeing.
<b>Patient Activation Measure - Mental Health (PAM-MH) (Green et al., 2010)</b>	A self-report measure of patient activation that can be used to assess an individuals ability to engage in their health care, which in turn can be a reliable indicator of a number of health outcomes. Patient activation is a concept which specifies the level of patients’ engagement, self-reported knowledge, skills, behaviours and confidence for self-management of health and chronic diseases.
<b>Self-Efficacy for Exercise Scale (SEE) (Resnick &amp; Jenkins, 2000)</b>	A 9-item questionnaire that focuses on the self-efficacy expectations for exercise. Self-efficacy, one of the most consistent predictors of exercise adherence, is related to stage of change.

**Rosenberg Self-Esteem Scale  
(Rosenberg, 1965)**

A tool for measuring global self-esteem. The scale is a 10-item Likert scale with items answered on a 4-point scale - from strongly agree to strongly disagree. The RSE is one of the most widely used measures of self-esteem.

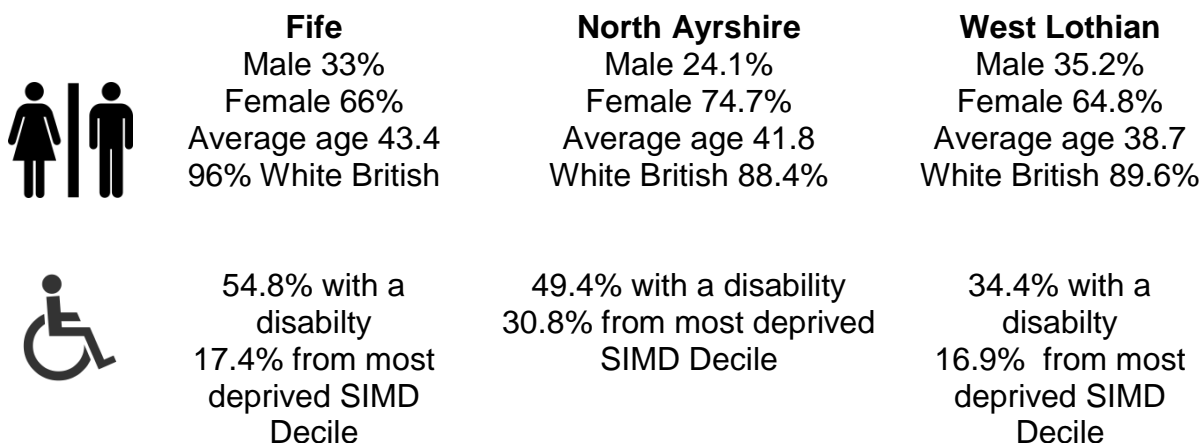
ALBA was piloted in three areas across Scotland: Fife, North Ayrshire and West Lothian. Participants were recruited through the existing Exercise Referral pathways with the collaboration of the local leisure trusts. Participants who consented to taking part in the study were set up with an activity tracker, which was used to collect physical activity data throughout the 16-week intervention period, by the Behaviour Change Practitioner at the initial meeting. At this first appointment the participants completed the baseline measures. Participants received a minimum of 2 weeks of 1:1 behaviour change sessions prior to starting an exercise program, then during the 12 weeks of PA they received fortnightly meetings with the Behaviour Change Practitioner. In these fortnightly meetings the participants were also supported to sync their trackers.

The pathway with which participants move through the intervention is presented in the diagram below.



## Quantitative results

In total, 318 participants were recruited to take part in the ALBA intervention, across all three areas. Overall, ALBA participants have been 68% female, 90.3% White – British. 20.8% came from the most deprived SIMD Decile, average age 41.2 (min 18, max 80, SD = 13.10), and 45.5% consider themselves to have a disability.



Of the 318, 171 participants completed the intervention, giving a completion rate of 53%. 27% were still adhering after 6 months, and 10% after 12 months. The below diagram presents the flow of participants through the intervention.

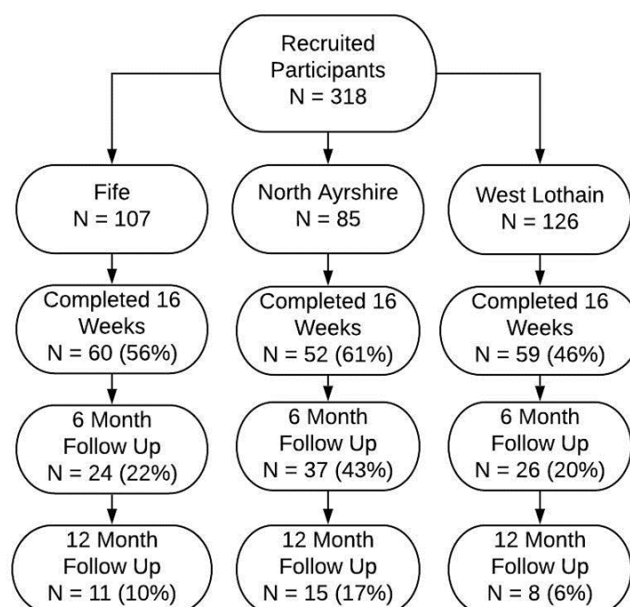


Figure 1 Participant Adherence

It is noted that adherence was highest in North Ayrshire, which is the area with the highest level of deprivation.

Reasons for drop out were recorded when possible (see Table 3). The majority of participants who dropped out, provided no reason and contact was lost.

*Table 2 Reasons for drop out*

<b>Reason for Drop Out</b>	<b>N</b>	<b>%</b>
No Reason	<b>64</b>	<b>52%</b>
Health Complications	<b>14</b>	<b>11%</b>
Decided not for them	<b>8</b>	<b>6%</b>
Too Busy	<b>8</b>	<b>6%</b>
Started full time employment	<b>4</b>	<b>5%</b>
Complete intervention but didn't want to do study	<b>3</b>	<b>4%</b>
Bereavement	<b>2</b>	<b>2%</b>
Change of staff	<b>2</b>	<b>2%</b>
Didn't think suitable	<b>2</b>	<b>2%</b>
Family circumstances	<b>2</b>	<b>2%</b>
Moved	<b>2</b>	<b>2%</b>
Difficulty getting to appointments	<b>1</b>	<b>1%</b>
Health - GP decided not suitable	<b>1</b>	<b>1%</b>
Lack of Childcare	<b>1</b>	<b>1%</b>
Started volunteering	<b>1</b>	<b>1%</b>

The activity tracker data is presented below. Adherence to the CMO guidelines was calculated based on the assumption that 3,000 steps is equivalent to 30 minutes of moderate activity, based on the cadence of 100 steps/per minute (Marshall et al., 2009; Tudor-Locke et al., 2018). Therefore, to meet recommended PA guidelines, an individual would have to complete an additional of 3,000 steps, over and above the <5,000 sedentary level, meaning a daily step count of >8,000 on five or more days would equate to meeting the PA recommendations. The UK CMO guidelines published in 2019 advocate accumulating 150 minutes of moderate to vigorous PA in a week, a translation of this into steps would equate to a weekly total of >50,000 steps/week (baseline of 5,000 a day for 7 days with an additional 15,000).



Table 3 Activity as measured by Activity Trackers

	N	Mean Weekly Total Steps	95% CI		% meeting CMO Guidelines
			Lower Bound	Upper Bound	
Baseline	277	34195.93	31147.09	37244.77	22%
Week 2	269	32018.19	28861.01	35175.37	20%
Week 3	251	31043.91	27810.75	34277.07	17%
Week 4	225	33911.82	29987.27	37836.37	17%
Week 5	213	34494.00	30374.03	38613.97	18%
Week 6	206	34609.98	30560.29	38659.68	17%
Week 7	190	34320.01	30180.90	38459.12	14%
Week 8	189	32079.86	28082.44	36077.29	14%
Week 9	179	31795.17	27652.15	35938.20	12%
Week 10	168	34419.11	30033.57	38804.65	14%
Week 11	163	36397.51	31716.00	41079.02	15%
Week 12	156	31823.28	27557.06	36089.49	14%
Week 13	146	36564.36	31553.95	41574.76	13%
Week 14	138	36766.8	32049.13	41484.48	14%
Week 15	140	32545.21	28190.46	36899.95	11%
Week 16	133	31560.66	27019.22	36102.10	10%

The table below presents the means and standard deviation on each measure across the four time points.

Table 4 Descriptive Statistics

Variable	Baseline	16 Weeks	6 Months	12 Months
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
<b>STEPS</b>	33676.80 (25746.11)	21514.80 (21563.71)	21011.27 (21755.51)	18079.34 (18628.72)
<b>SPAQ</b>	675.85 (611.40)	969.83 (982.42)	964.00 (881.84)	935.61 (843.80)
<b>SEE</b>	34.61 (20.42)	39.49 (20.52)	39.63 (20.83)	39.86 (20.56)
<b>PAM</b>	52.90 (13.92)	57.49 (15.49)	57.90 (15.75)	57.69 (15.51)
<b>WEMWBS</b>	34.64 (9.33)	39.89 (10.71)	40.10 (10.89)	40.13 (10.97)
<b>ROSENBERG</b>	13.83 (6.99)	14.58 (5.90)	14.64 (5.97)	14.59 (6.00)

There was a **statistically significant** difference from pre and post intervention,  $F(18, 3087) = 8.700, p < .001$ ; Pillai's trace = .145, partial  $\eta^2 = .048$ . Separate univariate ANOVAs on the outcome variables revealed that there was a **statistically significant effect** on steps as measured by **activity tracker** ( $F(3, 1032) = 25.122; p < .001$ , partial  $\eta^2 = .068$ ), self-reported physical activity as measured by **SPAQ** ( $F(3, 1032) = 7.180; p < .001$ , partial  $\eta^2 = .020$ ), self-efficacy as measured by **SEE** ( $F(3,$

1032) = 3.854;  $p < .05$ , partial  $\eta^2 = .011$ ), Mental wellbeing as measured by **WEMWBS** ( $F(3, 1032) = 16.906$ ;  $p < .001$ , partial  $\eta^2 = .047$ ) and patient activation as measured by **PAM** ( $F(3, 1032) = 6.411$ ;  $p < .001$ , partial  $\eta^2 = .018$ ). There was **no significant effect** of time on **Rosenberg** ( $F(3, 1032) = 1.000$ ;  $p = .392$ ; partial  $\eta^2 = .003$ ).

Post hoc tests using the Bonferroni correction revealed that there was **a significant positive change** between baseline and post intervention, 6 months and 12 months for **SPAQ** ( $m = -159.48$ ,  $p < .001$ ;  $m = -193.57$ ,  $p < .001$ ;  $m = -188.59$ ,  $p < .001$ ) but was not significant between post intervention and 6 month follow up or 12 month follow up. The same pattern was seen for **SEE** ( $m = -4.03$ ,  $p < .001$ ;  $m = -4.85$ ,  $p < .001$ ,  $m = -4.87$ ,  $p < .001$ ); **PAM** ( $m = -4.34$ ,  $p < .001$ ;  $m = -4.53$ ,  $p < .001$ ;  $m = -4.19$ ,  $p < .001$ ) and **WEMWBS** ( $m = -4.63$ ,  $p < .001$ ;  $m = -4.83$ ,  $p < .001$ ;  $m = -4.94$ ,  $p < .001$ ). The post hoc analysis however revealed that there was **a significant decrease** in steps as measured by the **activity trackers** from baseline ( $m = 34308.78$ ) to post intervention ( $m = 11690.58$ ,  $p < .001$ ), 6 months ( $m = 12858.46$ ,  $p < .001$ ) and 12 months follow up ( $m = 14275.96$ ,  $p < .001$ ).

Therefore, we can conclude that the ALBA intervention has a significant effect on self-reported PA, self-efficacy for exercise, patient activation and mental wellbeing, which is sustained over the follow up period of 6 and 12 months.

## Qualitative results

The benefits of participating in ALBA identified from the focus group interviews are summarised in the table below.

Skills	<p>Participants spoke about becoming active through the lenses of skill development, as becoming active was new to a lot of the participants, they particularly valued the support they received from leisure trust staff in the gyms, and that they felt they were being taught by someone who knew what they were doing. Participants also spoke about how they had learnt life skills which made them more resilient and helped them to overcome challenges to their mental health.</p> <p><i>"I think I've got the tools now like to, if I get into like a slump, to like get myself out of it and take the little steps and get myself better and active again"</i></p>
Confidence	<p>Participants discussed how taking part in ALBA had given them a new sense of confidence in themselves, and their abilities which had encouraged them to further engage with the intervention. This confidence extended beyond being active, as people felt they gained confidence to return to work or start higher education. Participant's also reported that they felt the intervention had equipped them with the life skills. Participants often discussed the "vicious cycle" and how they felt they were more capable of recognising this and helping themselves overcome any mental health challenges that they may face in the future.</p>
Reduced Isolation	<p>ALBA helped to foster a sense of optimism, as participants reported that it helped them to feel less alone, as they felt they were more able to talk about their mental health and as result they found that people were open about their own mental health.</p> <p><i>"The thing is, it wasn't the most uplifting conversation but it's bizarre though how, well I certainly feel anyway, that being able to talk about these negative things with somebody who actually gets it isn't a negative at all, it's reassuring"</i></p>
Sense of Purpose	<p>The ALBA intervention also helped to foster a sense of optimism for the future, as well as helping participants to feel proud of themselves. Participants felt that through participating in ALBA they could see how far they had come. The ALBA intervention also helped to change intentions, with participants reporting that it had given them a new sense of purpose, as they felt attending intervention appointments and engaging in PA helped to give them some structure in their lives. Participants spoke about how the appointments with BCP helped them to feel motivated to get out the house.</p>
Becoming Active	<p>Participants discussed how ALBA had helped them to become more motivated to be active, with participants reporting that they now felt like they made more effort to be active and that they thought about their activity more than they ever had before.</p> <p><i>"I think it's the consideration that I make daily, whether I'm able to do it"</i></p>

	<i>or not, it is in my mind, it is something that I should be doing, whether I manage or not, it's not something I forget about"</i>
ALBA Resource	The participants spoke a lot about the workbooks that the BCPs work through with them. The general response was very positive, as participants found them really simple to understand. This was mostly seen as a positive, as some participants mentioned how they experience poor concentration when their mental health is bad. Participants also reflected that the workbooks were good to have as they could go back and look over them when they are having bad times, so there was that extra benefit of having something they could do on their own.
Support from BCP	The participants put a lot of emphasis on the importance of the interpersonal factors involved in the intervention, specifically having the opportunity to meet up for the 1:1 behaviour change session. The participants reported finding the relationship that formed with their BCP to be very supportive and encouraging, with some participants conveying that they enjoyed the sessions, as it gave them something to look forward to. Participants really valued having somebody who was "there for them", who they could speak to, who listened to what they were saying, no matter if it was good or bad. The beneficial support offered by the BCP is evidence of the training that equipped the BCPs with the skills to be able to support the complex needs of the participants.
Activity Trackers	The discussion of the activity trackers suggested that the participants found them motivating, as they could see when they were achieving their goal. Participants reported that they enjoyed using them, as they enjoyed seeing high step counts, and found it encouraging when they saw they how much activity they had done just going about their day. However, the participants commented that they had some technical issues with the trackers and had some concerns about if the trackers were accurately measuring their activity.

## Summary of findings

The aim of this evaluation was to explore the effectiveness of the ALBA intervention at increasing adherence to PA and improving mental wellbeing. The intervention appears to have had a positive effect on self-reported PA, however the objective measure of PA suggests otherwise, this may be attributed to limitations of this measure, which shall be discussed below. The results have found that the intervention had good adherence, when taking into account the target population and the length of the programme. The results also indicated that the intervention was effective at increasing mental wellbeing, self-efficacy and patient activation, and that these positive effects were maintained over the long-term follow up period. The findings from the qualitative evaluation also supported that participating in the intervention had a number of benefits for the participants, particularly that they had gained confidence and had learnt skills which they felt they could use to help overcome any mental health challenges.

The adherence rate to ALBA over the 16 weeks was 53%, this is considerably higher than what has been found in previous studies, where adherence to PA has been found to be 20% (Gidlow, Johnston, Crone, & James, 2005). Adherence to PA in mental health referrals has consistently been found to be lower than for individuals who are referred from physical health conditions, with evidence suggesting that severity of mental health condition is associated with increased risk of drop out (Krogh, Lorentzen, Subhi, & Nordentoft, 2014). Therefore, the level of adherence achieved with ALBA is significant, as it was targeted at a high-risk population. The level of adherence seen in ALBA trial has been found to be comparable to evidence from evaluations of ERS, which suggest that adherence ranges of 12%-93% (Pavey et al., 2012). The evidence from the ALBA evaluation therefore indicates that the intervention was acceptable to the target population and successful at increasing adherence.

The results from ALBA suggest that self-reported PA as measured by SPAQ significantly increased over the 16 weeks, with participants on average reporting a 43% increase in the amount of time spent being active. This increase in self-reported PA was maintained over the follow up period. This is a significant finding as it suggests that participants perceived themselves as becoming more active and become more aware of the amount of PA they engaged in, after taking part in ALBA. Evidence suggests that there is a dose-response relationship between physical activity and physical and mental health benefits, particularly for those who are inactive and at the greatest risk. Research has found that exercise at any intensity has been associated with lower risk of mortality (Ekelund et al., 2019), with evidence suggesting that an increase of just 2000 steps/day can have positive health benefits (Tudor-Locke, Bassett, Shipe, & McClain, 2011). Therefore, even small increases in PA can have a significant impact on improving mental health and wellbeing (Teychenne et al., 2020). The ALBA intervention was not prescriptive about the amount or type of activity that participants should engage in, as it focused on encouraging engagement in PA, and finding ways of increasing and maintaining PA levels in a way which would help individuals meet their own personal goals. Therefore, the aims of ALBA aligned with the public health message that “some activity is better than none”, especially for adults who have been previously inactive.

The objectively measured PA did not correspond with the self-reported measures, indicating that the number of participants who met the CMO guidelines decreased over the 16 weeks. There are numerous reasons why the self-report and objectively measured PA may not correspond. For one, the activity trackers could not pick up on activities such as cycling and swimming, which could be reported in the self-report measure. The lack of significant results from the objective measure of PA might also be a result of methodological weaknesses and limitations of the activity trackers. The reliability of the activity trackers were untested against the gold standard, which as a result meant there was a lack of conclusive evidence for their reliability and suitability as an objective measure. As a result of this, some participants may have been meeting the guidelines but not being classified as an adherer, or vice versa. Equally, participant might also have not been wearing their trackers as often as they were supposed to or not syncing their data, which could have influenced these

results. This is supported by evidence from the focus groups, where participants reported issues with the trackers, including not syncing, issues with picking up steps, losing trackers or forgetting to charge their trackers. Monitoring of how often participants wore their activity tracker through self-report diaries might have protected against this limitation. Despite the limitations of the trackers as an objective measure, the activity trackers had benefits for the ALBA participants, as participants were able to use them as a self-monitoring tool and they encouraged initial engagement in the intervention.

The results suggest that ALBA had a significant effect on improving mental wellbeing, with the average WEMWBS score increasing from 34.7 to 39.9. These improvements are seen to be maintained through the 6 and 12 months follow up, suggesting that the ALBA intervention promotes and sustains improvements in mental wellbeing. Data collected in the Scottish Health Survey suggests that the national mean WEMWBS score is 49.4 (The Scottish Government, 2019). Whilst the scores from the ALBA intervention fall below the national average, this would be expected in a mental health population, as scores on the WEMWBS below 40 are considered indicative of depression. The results from ALBA evidence a significant increase in wellbeing which would be meaningful to the individual and could be interpreted as a significant lessening of mental health symptoms (Maheswaran, Weich, Powell, & Stewart-Brown, 2012).

The improvements to ALBA participants mental wellbeing suggest that the intervention had a significant long-lasting effect on mental health, this suggests that the intervention provided participants with the skills which had enabled people to overcome challenges and helped them to develop improved coping skills. This finding is supported by evidence from the qualitative study which suggested that participating in ALBA enhanced participants confidence to engage in PA and to try new things, as well as providing participants with increased opportunity for social interaction and provided a sense of purpose. Engaging in meaningful activity has implications for improving wellbeing, as a sense of autonomy and purpose are key aspects of mental wellbeing. The findings from this evaluation suggest that ALBA provided participants with a sense of structure and a distraction, as participants were required to meet regularly with the BCPs and engage in activity which gave them something to focus on and a sense of structure in a day.

The data from the qualitative study also suggested that the relationship between the BCP and the participants played a key role in facilitating engagement and helping participants to overcome the barriers they faced, as it allowed participants to open up about their mental health and develop a cooperative relationship which allowed them to problem solve and set goals. This in turn led to other therapeutic benefits, as it helped to influence participants' beliefs about their capabilities and their intentions. The warm empathetic participant-practitioner relationship allowed participants to feel listened to and understood, which acted as a platform for participants to feel reconnected to others. Thus, the ALBA intervention helped to foster a sense of connectedness, and a sense of purpose and autonomy, which may have contributed to the improvements in mental wellbeing. This finding highlights the importance of having committed and well-trained practitioners in the role of BCP for delivering a

high-quality intervention. SAMH is an organisation which is dedicated exclusively to and specialises in mental health. Its in-depth understanding of the needs of people with mental health conditions and general organisational approach was key to the training and development of individuals, which in turn was integral to the successful implementation of ALBA.

Evidence suggests that positive feedback on attempts at achieving goals is associated with significantly higher confidence (Williams & French, 2011). The results indicate that the ALBA intervention had a significant effect on self-efficacy for exercise, suggesting that participants' experience of taking part in the intervention had helped them to feel more confident about being able to engage in PA in the future. This increased confidence is protective against poor mental wellbeing, as a lack of self-confidence can contribute to a vicious cycle, whereby a person does not pursue achievable goals or tasks, which lead to feelings of frustration which can impact on an individual's mental health. Self-efficacy has consistently been identified as predictive of PA behaviour (Rhodes & Quinlan, 2015). This change in self-efficacy must therefore be interpreted as an increased confidence in the participants ability to engage in PA, which in turn influences level of motivation.

Increases in activation have been found to be related to higher levels of recovery, better physical and mental health and fewer mental health symptoms (Green et al., 2010). Patient activation is also positively associated with greater self-management of health and adherence to health-related behaviours, such as increased PA (Hibbard, Mahoney, Stock, & Tusler, 2007). Therefore, the increases in activation as displayed in this study suggests that the tailored approach adopted in the ALBA intervention was effective at increasing participants' engagement in their mental health care. The results show a significant effect on patient activation, with participants mean scores suggesting that the intervention helped participants to move from activation level 2 to level 3. This suggests that at baseline, most participants were at level 2 of activation, which represents a lack of knowledge and confidence about how to manage their health (Hibbard, Mahoney, Stockard, & Tusler, 2005) and that the intervention helped participants to increase to level 3, which represents individuals taking action, but still lacking in confidence and need of support for their change in behaviour. This is a significant finding, as it suggests that the ALBA intervention has helped participants to gain knowledge and confidence in their ability to manage their mental health.

Considering the effect that the ALBA intervention had on mental wellbeing it was anticipated that there would also be a positive impact on self-esteem. However, the results of the outcome evaluation show no significant change in self-esteem. The lack of significant change in self-esteem could be attributed to a methodological weakness of this evaluation. The Rosenberg Self Esteem Scale (1989) is one of the most widely used self-esteem measures, however, there has been some criticism of the design of this measure, particularly the negative worded questions, which has called into question the construct validity (Wongpakaran & Wongpakaran, 2012). Another issue with the Rosenberg Self-Esteem scale is that it is a global self-esteem measure. Evidence suggests that global self-esteem is relatively stable across lifetime with previous research finding that the impact of PA on global self-esteem is

an inconsistent and weak, whereas domain specific self-esteem is more changeable. Therefore when examining the effect of PA on self-esteem it has been recommended to use on physical self-esteem measure rather than a global one (McAuley et al., 2005). If a domain specific measure had been selected, then perhaps the results would have been different.

The findings from ALBA intervention raises questions about the contribution of PA to wider context of mental health recovery. In mental health care, recovery is defined as “a personal process of learning how to live and how to live well with or without enduring symptoms or vulnerabilities” (Roberts & Boardman, 2013). Leamy et al (2011) proposed the CHIME framework of which identified five processes most relevant to personal recovery in mental health: connectedness; hope and optimism for the future; identity; meaning in life and empowerment (CHIME). This model helps to explain how the ALBA intervention helped to support improvements in mental wellbeing, and in turn influenced better engagement in PA and self-management of health. It was supportive of connectedness as participants were able to develop relationships with the BCPs and peer supporters and were able to find meaning in life and empowerment through being able to set their own goals and receive support to achieve them. ALBA was therefore supportive of wider mental health recovery, through the promotion of PA. The use of PA as a tool and the wider benefits that it can generate is recognised in Outcome 5 of the Active Scotland Outcome Framework (ASOF), which identified that sport and physical activity can be used to foster wellbeing and resilience in communities (The Scottish Government, 2018a). Sport and PA can be used as a tool to generate a sense of community identity and help reduce social isolation. Widening the availability of a public health intervention like ALBA, could help to improve public mental wellbeing by addressing risk factors for poor mental health and encouraging a healthy lifestyle, which could have economic and social benefits. In Scotland, mental health conditions are estimated to affect 1 in 4 people (Scottish Government, 2018). Therefore, increasing access to an intervention like ALBA could contribute to tackling the health inequalities experienced by this population and help to address the Scottish Government’s goal of improving the physical and mental wellbeing of people with mental health conditions.



## Conclusion

In conclusion, the ALBA intervention was effective at promoting mental health recovery through increasing adherence to physical activity. People with mental health conditions are a high-risk population for inactivity and other high-risk health behaviours, which results in an increased level of premature mortality in this population, with people with mental health conditions living between 15 and 20 years less than average (Thornicroft, 2011). Therefore, increasing PA in people with mental health conditions is essential for reducing the life expectancy gap. The ALBA intervention offers an approach which could help improve mental wellbeing, which also aims to encourage improving physical health through PA. This approach joins both physical and mental health in a move towards mental health recovery.

The findings from the evaluation suggest that ALBA had a long lasting and beneficial effect on mental wellbeing, confidence and engagement in self-management of health care. Through the ALBA intervention, participants were encouraged to and supported in engaging in purposeful activity; setting and achieving goals; and making use of increased opportunities for social interaction. Therefore, these findings suggest that participating in ALBA helped to facilitate mental health recovery, as physical activity was used as a tool which helped the participants to re-engage in meaningful activities, which in turn promoted improvements in wellbeing.

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