Behaviour Change Techniques, Barriers and Facilitators for Promoting Self-managed Physical Activity in Australian Defence Force Veterans: A Mixed-methods Study

Z Papinczak

Abstract

Objectives: Australian Defence Force veterans find self-management of health challenging, and little is known about best-practice approaches for promoting self-managed physical activity in this population. This study assessed the strategies used by health professionals to support veteran patients to self-manage their physical activity regimes and their perceptions concerning the barriers and facilitators that impact veterans' transition from supervised to self-managed physical activity.

Methods: Australian physiotherapists (*n*=37) and exercise physiologists (*n*=27) completed an online survey about the behaviour change techniques they use to promote self-managed physical activity, and the barriers and facilitators to self-management for veteran patients. Five practitioners participated in a follow-up interview exploring implementation and practice issues.

Results: Education and goal setting were the behaviour change techniques used most frequently by health professionals to promote self-managed physical activity (>90% 'always' or 'most of the time'). The most critical facilitators of patient engagement in self-managed physical activity were social support and patient confidence to self-manage. At the same time, chronic health conditions and a lack of interest in self-managing were the most significant barriers. Interview data identified the need for more education for health professionals concerning the use of behaviour change techniques to support veteran patients' transition to self-managed physical activity.

Conclusion: This research identified key factors that can be targeted and strategies health professionals can use to promote self-managed physical activity with veteran patients. Findings offer practical recommendations for improving veterans' transition from supervised to self-managed physical activity.

Keywords: physical activity, behaviour change, veterans' health, self-management, primary health services

Introduction

Regular participation in physical activity (PA) is associated with a range of positive health outcomes, including reduced risk of illness from chronic disease (e.g., heart disease, type 2 diabetes), improved physical and cognitive function, and reduced symptoms of anxiety and depression.[1] Despite the importance of PA, most adults do not meet the minimum recommended levels of activity required for positive health outcomes.[2]

Physiotherapists and exercise physiologists (EPs) are recognised allied health professionals who are essential in promoting PA. EPs are trained to deliver individualised exercise programs that can prevent and treat chronic disease and injury, and use behaviour change techniques (BCTs) that motivate and support patients to self-manage their PA regimes outside of treatment.[3] Physiotherapists also play a critical role in injury prevention and management, and have more recently been recognised as having

the skills to promote self-managed PA with patients. However, this is not a focal point of their clinical practice.[4,5]

In Australia, medical practitioners can refer patients to physiotherapists and EPs for treatments that involve PA through government-funded healthcare schemes.[6] One limitation of this model is that many patients fail to maintain their PA regimens once discharged from treatment.[7,8] This is problematic, given that the health benefits attained during treatment may be lost when an individual is no longer active. Studies have found that patients commonly experience challenges transitioning from supervised to self-managed PA and report difficulties in maintaining motivation and finding the confidence to be active without expert guidance.[9,10] Successful self-management requires patients to acquire the knowledge, confidence and skills to take responsibility for their health and wellbeing. These factors are critical for the effective, long-term management of chronic disease.[11]

Military service veterans are an at-risk population for whom PA self-management is critical. Australian Defence Force (ADF) veterans have significantly higher rates of chronic and mental health conditions, such as depression[12] and cardiovascular disease,[13] when compared to the general population and may have more difficulty in self-managing their health. As PA is a crucial component of managing many chronic and mental health conditions, the Australian Government Department of Veterans' Affairs (DVA) has identified self-management as a key priority in supporting the health and wellbeing of ADF veterans and has taken active steps to invest in the development of a self-management support program to assist veterans in transitioning from allied health treatment involving PA (such as from an EP or physiotherapist) to self-managed PA.[14]

Given their role in chronic disease management, physiotherapists and EPs must use BCTs to encourage patients' participation in self-managed PA. There is, however, currently little knowledge about which specific BCTs are used or the barriers and facilitators that help or hinder patients' transition to self-managed PA. As far as we know, few studies with physiotherapists[4,5,15,16] and none with EPs have examined which BCTs are used in their clinical practice to promote self-managed PA. Furthermore, no studies have examined PA behaviour change issues in veterans, who are likely to have unique treatment considerations. Further research in this area is needed to guide the development of effective self-management programs for veterans and inform best-practice approaches for allied health professionals and organisations seeking to support veteran patients as they transition from treatment to self-managed PA.

This study undertook stakeholder consultations to address limitations in the current knowledge base with Australian physiotherapists and EPs who deliver DVA-funded allied health treatment to ADF veterans. The study aimed to identify (i) the type and frequency of BCTs used by these health professionals to assist PA self-management in veterans, and (ii) the barriers, facilitators and issues that patients and health professionals encounter in engaging with and promoting unsupervised PA in veterans as they transition from supervised to self-managed PA.

Methods

Design

The study utilised a mixed-methods design involving an online survey followed by interviews with a subsample of volunteers who completed the survey. This study was part of a larger DVA-funded research project to develop and evaluate a PA self-management support program for ADF veterans.[14] Ethics approval was obtained by the University of Queensland (2020000034/163-19) and Department of Defence and Veterans' Affairs (DDVAHREC/OUT/2019/BN11979933) Human Research Ethics Committees prior to study commencement, in compliance with the Australian Research Council's National Statement on Ethical Conduct in Human Research.

Recruitment

We sought to recruit a sample of Australian physiotherapists and EPs involved in the delivery of DVA-funded treatment to ADF veterans. The online survey was advertised nationally through Exercise & Sports Science Australia (ESSA) and Australian Physiotherapy Association (APA) communication channels, including social media posts (Facebook and LinkedIn) and e-newsletters distributed to members and advocacy groups. Recruitment took place from July until September 2020, with study advertisements shared monthly. All participants provided informed consent before participating in the research.

Survey and interview procedures

Survey items were developed in consultation with content experts, including ESSA, APA and DVA representatives, and informed by a systematic review of self-managed PA programs for veterans.[17] This review found that seven BCTs were commonly used in effective self-management support programs:

education, goal setting, goal review, barrier identification, action planning, self-monitoring and social support. Survey respondents were asked to consider each of these BCTs, as well as a list of barriers and facilitators. The survey was pilot tested with an EP and physiotherapist before publication online, who confirmed language and format suitability.

The final online survey (28 items) was conducted using Qualtrics (Qualtrics^{XM}, Provo, UT) from July to September 2020 and comprised three sections. The first section focused on allied health professionals' frequency of use of the seven identified BCTs to help veterans with PA self-management. Definitions of the BCTs were provided, and participants responded to each item using a 5-point Likert scale (1 = never; 5 = always). The second section asked participants to rank the importance of seven identified barriers and seven identified facilitators to PA self-management in veterans (1 = most important; 7 = least important). An open-ended item was also included in the first and second sections of the survey to capture additional BCTs, barriers and facilitators that may not have been identified through the review and expert consultation. In the third section, participants responded to demographic questions (primary profession, years working in the profession, work setting and work location). All survey items were optional, with items within sections randomised to mitigate response bias. Responses were anonymous, and the survey took about 10 minutes to complete.

The interviews were conducted in November 2020 with the aim of informing recommendations for clinical practice. We were guided by responses to and issues raised in the survey from which three thematic questions were developed and posed: 1) How do health professionals support their veteran patients to self-manage their PA regimes? 2) When should health professionals begin to implement self-management processes with veteran patients? And 3) What supports do health professionals need to better engage veteran patients in self-management processes? These interviews were completed using Zoom teleconferencing software and ran for one hour. One facilitator (NG) and a note-taker (ZP) were present. The interviews were recorded and later transcribed in full.

Analyses

Descriptive statistics (frequencies, means [M], standard deviations [SD] and rank orders) were used to summarise participant demographics, BCTs, and barriers and facilitators (STATA, version 16.1). Independent samples t-tests were used to identify differences in survey responses between EPs and physiotherapists, with the criterion for statistical significance set at $p<.05$. Conventional content analysis[18] was used to analyse responses to the free-text survey items. Reflexive thematic analysis[19] was used to analyse the interview data.

Results

Survey participants

Table 1 shows the demographic characteristics of survey respondents (n=65). The majority were physiotherapists (58%), and over half the physiotherapists and EPs worked in a private practice facility (66%) located in a capital city or large metropolitan area (68%). The average time working as a health professional was 16.0 years (SD = 13.0; range = 1–44 years), with physiotherapists (M = 21.4 years; SD = 13.5) working significantly longer than EPs (M = 8.5 years; SD = 7.9), $p<.001$. No other significant differences between professions were observed.

Table 1. Characteristics of physiotherapists and EPs who completed the online survey (n=65)

Characteristic	*N*	%
Primary profession [a]		
Physiotherapist	37	57.8
Exercise physiologist	27	42.2
Workplace setting		
Private practice facility	43	66.2
Fitness centre/gym	5	7.7
Community healthcare service	4	6.2
Other	13	19.9
Workplace location		
Capital city/large metropolitan area	44	67.7
Rural/remote area	14	21.5
Large regional town	7	10.8

Note. [a]Data missing from one participant.

Survey data

Table 2 shows health professionals' frequency of use of the seven identified BCTs to support veteran patients with PA self-management. Most survey respondents reported using each BCT 'always' or 'most of the time'. Education (95%) and goal setting (91%) strategies were the most frequently used, while social support (61%) and action planning (70%) were used the least. In the open-response item, six respondents reported using additional BCTs with veteran patients. These were motivational interviewing (n=2), rewarding achievements (n=2), relapse prevention (n=1) and behavioural reminders (n=1).

Table 2. Frequency of use of behaviour change techniques by physiotherapists and EPs

Strategy	Always (5)	Most of the time (4)	Sometimes (3)	Rarely (2)	Never (1)	Survey score M (SD)
Education	45 (70.3%)	16 (25.0%)	3 (4.7%)	-	-	4.7 (0.6)
Goal setting	27 (42.2%)	28 (43.8%)	8 (12.5%)	1 (1.6%)	-	4.3 (0.7)
Self-monitoring	27 (42.2%)	23 (35.9%)	11 (17.2%)	3 (4.7%)	-	4.2 (0.9)
Barrier identification	25 (39.1%)	29 (45.3%)	8 (12.5%)	2 (3.1%)	-	4.2 (0.8)
Goal review	19 (29.7%)	29 (45.3%)	13 (20.3%)	3 (4.7%)	-	4.0 (0.8)
Action planning [a]	15 (23.8%)	29 (46.0%)	17 (27.0%)	2 (3.2%)	-	3.9 (0.8)
Social support [a]	14 (21.9%)	25 (39.1%)	20 (31.3%)	5 (7.8%)	-	3.8 (0.9)

Note. [a]Data missing from one participant.

Table 3 shows the rank ordering of barriers and facilitators to self-managed PA in veterans. The most important barrier was the presence of a chronic health problem that makes self-management difficult, followed by patient lack of interest in self-managing PA. More than 30% of survey respondents rated these two barriers as most important, and fewer than 10% ranked them as least important. Concern that patients may injure themselves during self-managed PA emerged as the barrier of least importance, with 45% of survey respondents ranking this barrier last. The remaining barriers were ranked as moderately important. In the open-response item, additional reported barriers were patients' low motivation (n=5), anxiety relating to injury during self-managed PA (n=3) and lack of time (n=2).

Patient confidence to self-manage PA and the presence of social support were ranked as the most important facilitators, with very few survey respondents considering these to be of low importance (1.6% and 0%, respectively). The remaining facilitators were ranked as moderately important. The exception was 'tapering treatment services', ranked as the least important facilitator by over a third of survey respondents. No additional facilitators were reported in the open-response item.

Table 3. Rankings of barriers and facilitators to self-managed physical activity.

	Rank score *M (SD)*	% ranked 'most important'	% ranked 'least important'
Barriers			
Patient has chronic health condition that makes self-management difficult	2.8 (1.8)	31.3	3.1
Patient isn't interested in self-managing their physical activity	3.0 (2.1)	34.4	7.8
Patient lacks social support to be physically active	3.8 (1.7)	6.3	4.7
Health system pays for treatment but not self-managed physical activity options	4.2 (2.1)	15.6	14.1
Patient doesn't have access to suitable facilities to be active outside of treatment	4.2 (1.6)	6.3	10.9
There are insufficient programs to help patients self-manage their physical activity	4.5 (1.8)	3.1	14.1
Clinician is worried the patient may injure themselves through physical activity performed outside of treatment sessions	5.5 (1.8)	3.1	45.3
Facilitators			
Patient is confident they can self-manage physical activity	2.6 (1.8)	37.5	1.6
Patient has social support	3.4 (1.6)	14.1	0.0
Patient has access to ongoing physical activity support services	3.8 (1.9)	6.3	14.1
Patient exercises with others	4.0 (2.0)	15.6	10.9
Patient receives consistent messaging from all stakeholders	4.2 (2.2)	17.2	21.9
Patient is held accountable for physical activity	4.2 (1.8)	9.4	12.5
Patient's treatment services are tapered	5.7 (1.4)	3.1	39.1

Interview data

Three physiotherapists and two EPs volunteered to participate in an interview. Three worked in a capital city or large metropolitan area, and two in regional or rural Australia. Time spent working as a health professional ranged from five to 35 years.

Theme 1: Strategies to support self-managed physical activity

In line with survey data, participants strongly agreed that social support and self-confidence are key facilitators of self-managed PA in veterans. Interviewees explained that the reason why social support is so critical for veterans is that many lack social support because they are socially isolated: '*The people I see who aren't interested in self-managing, the reason for that is that they're socially isolated*' (EP, Interviewee 1).

Encouraging patients to engage in group-based PA was highlighted as a mechanism for facilitating both social support and motivation to engage in self-managed PA: '*Social support is our hidden agenda. That is one of the things we want to achieve in a group setting, and that is the reason we encourage our clients to be in a group setting*' (Physiotherapist, Interviewee 5). Other strategies to promote social connectedness were pairing low with highly motivated patients as exercise partners and linking patients with community-based social groups outside of PA contexts.

In terms of developing self-confidence, interview discussions centred on identifying activities patients considered challenging and then building physical capability to improve self-efficacy for those specific activities: '*We love to find out what they think they can't do and then prove to them they actually can do it*' (Physiotherapist, Interviewee 4). It was interesting to note that EPs and physiotherapists commented that higher self-confidence matched physical capability in a supervised setting, then acted as the catalyst for the transition into self-managed PA.

Participants identified the value of using graded exercise programs during treatment, which gradually increased in difficulty as physical capability and self-confidence progressed: '*It's essentially an exposure hierarchy for anxiety, but with physical activity*' (EP, Interviewee 2). Linked to this, participants highlighted the importance of assessing improvements in functional fitness and how tangible outcomes through treatment provide a strong platform for PA self-management: '*There's all sorts of ways to affirm that there has been improvement and building confidence—all those physical outcome measures, patients love them. I think they are extremely valid and powerful to use*' (Physiotherapist, Interviewee 4).

Theme 2: When to start self-management processes

All participants agreed that it was important to start using BCTs from the beginning of treatment. They felt that this was critical in establishing expectations with veteran patients that they must take responsibility for self-managing their health: '*It starts at the very first visit when you're doing the patient interview. You're really establishing early on what your expectations are*' (Physiotherapist, Interviewee 4).

Participants also discussed how they transitioned patients to self-managed PA over time and felt it was important to provide ongoing support through the process of building self-management skills: '*It's not like a thing where you say "OK they're ready for self-management now, see you later.". It's a matter of them gradually improving their self-management skills over time*' (EP, Interviewee 1). One EP highlighted the value of offering group exercise classes as part of the transition process to unsupervised PA.

Theme 3: Training to deliver self-management processes

Participants consistently felt that EPs and physiotherapists needed more education on using BCTs to promote self-managed PA during treatment, with one physiotherapist noting that the provision of more BCT resources and materials was important to help encourage uptake and use by health professionals: '*Having some resources available for allied health professionals and perhaps some of the more relevant outcome measures and recommendations. Things that are readily accessible for a less experienced physio*' (Physiotherapist, Interviewee 4).

Participants also questioned whether it was beyond their remit as allied health professionals to utilise BCTs in which they had no training. Social support was identified as a strategy with limited instruction on use and implementation: '*I question if it's something we are fully responsible for or equipped to do. I remember when I was at university, I received no training on how to facilitate social networking. I wonder if it may be a bit too much of an ask*' (EP, Interviewee 2).

Lastly, participants identified that promoting PA self-management during treatment is a concern for EPs who were worried about the loss of clientele. The group thought this was particularly true for health

professionals in private practice who treat 'health as business': '*When you work in private practice, the barrier to self-management is that this is going to steal my patients*' (EP, Interviewee 1).

Discussion

In this mixed-methods study, we surveyed Australian physiotherapists and EPs to assess which BCTs they use during their clinical practice to promote self-managed PA with veterans and the barriers and facilitators for transitioning these patients from supervised to self-managed PA. In addition, we used interviews to explore key issues that these health professionals encounter in promoting self-managed PA with this patient group.

We found that education and goal setting were the BCTs most frequently used by physiotherapists and EPs to promote self-managed PA with veterans. In addition, most of these health professionals used each of the seven assessed BCTs (education, goal setting, self-monitoring, barrier identification, goal review, action planning and social support) 'always' or 'most of the time' to support veterans with PA self-management. Given that these BCTs were identified in our systematic review[17] as most commonly implemented in effective self-management programs for veterans, the latter finding suggests that our participants adopted good-practice approaches for promoting self-managed PA in this population.

A novel finding was that physiotherapists and EPs ranked a lack of interest in self-managing PA as a critical barrier to transitioning veterans to self-management. Within the DVA healthcare system, ADF veterans can receive DVA-funded treatment as long as deemed clinically necessary by their referring doctor.[6] Some patients may not be interested in self-managing their PA because they do not feel it is needed when they can continue seeing their health professional for supervised exercise sessions. There is also evidence that veterans have a preference for supervised treatment modalities over self-management[20] and prefer to exercise in a structured, supervised environment.[21] Based on these findings and the themes emerging from our study, it is recommended that EPs and physiotherapists educate patients about the importance of PA self-management for maintaining health and establishing with their patients from the beginning of treatment that the end goal is to move to self-managed PA. Furthermore, referring patients to group exercise sessions may be a useful strategy, given that these groups offer supervised and structured exercise as part of a self-managed regime.

Another unique finding was that patient confidence to self-manage PA was considered by physiotherapists and EPs as the most important facilitator of self-management in veterans. Patient confidence, similar to self-efficacy, is an individual's belief in their ability to succeed in a particular situation, and the importance that self-efficacy plays in PA is well-established in the wider literature.[22] This finding suggests that health professionals should routinely use BCTs to promote patients' self-confidence to engage in self-managed PA. Previous research highlights the need to select BCTs suitable for the population they are working with, as meta-analyses have found that different BCTs effectively improve both PA and PA self-efficacy in different populations.[23,24] Our findings suggest that using graded exercise programs and performance outcome measures are suitable for building self-confidence with veterans, in line with Bandura's[25] self-efficacy theory.

The finding that social support is a key facilitator of self-managed PA in veterans is consistent with past studies.[26] Nevertheless, despite survey respondents ranking social support as a top facilitator of self-managed PA, it was the BCT that health professionals used the least. In addition, Kunstler and colleagues[4] found that physiotherapists infrequently used social support strategies to promote self-managed PA with patients. These findings suggest that although these health professionals know the importance of social support in self-management, this awareness does not translate into consistent efforts to foster patient social support. Issues relating to social isolation underlie the importance of using social support strategies with these patients to promote engagement in self-managed PA. It is recommended that these health professionals use the PA setting to facilitate social support, which can be achieved through referring patients to group-based PA in their local community to increase opportunities for such support,[27] or implementing 'buddy systems' that pair veterans together as exercise partners.[28]

Two key issues emerged concerning the implementation of BCTs that promote PA self-management by physiotherapists and EPs, namely the concern that some EPs have around the potential loss of patients as they transition to self-managed PA, and the need for EPs and physiotherapists to have more formal training in the use of BCTs. Concerning the first issue, it is crucial that EPs view self-management as an adjunct rather than a replacement for clinical treatment, and understand that self-management can be used in conjunction with in-clinic care to drive better patient outcomes.[29] Regarding the second issue, behaviour change

theory is a clinical competency taught in EP degrees in Australia,[3] but not in physiotherapy degrees.[30] In terms of training for future cohorts of graduates in these health professions, it may be worthwhile for professional organisations and tertiary institutions to consider how undergraduate programs might better emphasise the important role BCTs play in supporting self-management in different treatment scenarios. Professional development opportunities for current practitioners should also be considered, with self-management 'champions' who can mentor other EPs and physiotherapists using BCTs.

The study limitations included the relatively small sample size, and the fact that health professionals who chose to participate likely represent those engaged in self-management support practices. Therefore, the practices reported by these participants may not necessarily be used by physiotherapists and EPs more broadly. Nonetheless, the insights obtained from this group have elicited important recommendations for promoting self-managed PA with veterans. Due to the self-report nature of the survey, participants may have over- or under-estimated their use of BCTs, and a future observational study could investigate this. Using a ranking system for determining the most important barriers and facilitators from a list of predetermined options may have excluded some key factors. However, only a small proportion of respondents reported additional barriers and facilitators in the open-text option, suggesting this is unlikely.

This mixed-methods study is the first to explore the BCTs physiotherapists and EPs use to support their veteran patients in self-managing PA, and the barriers and facilitators to effectively transitioning these patients from supervised treatment into self-management. Our findings provide important insights into the factors that can be targeted, and the strategies that can be used by these health professionals to better promote self-managed PA with veteran patients. Future research that engages with professional organisations and tertiary institutions is recommended to explore solutions for improving the delivery of self-management support practices by physiotherapists and EPs.

Corresponding Author: Zoe Elizabeth Papinczak, z.papinczak@uq.edu.au zoe.papinczak@gmail.com
Authors: Z E Papinczak[1,2], N Gilson[2], G Mielke[3], C Haslam[4], W Brown[2]
Author Affiliations:
1 Queensland Centre for Mental Health Research
2 The University of Queensland - School of Human Movement and Nutrition Sciences
3 The University of Queensland - School of Public Health
4 The University of Queensland - School of Psychology

References

1. U.S. Department of Health and Human Services. 2018 Physical Activity Guidelines Advisory Committee Scientific Report. 2018. Available from: https://health.gov/sites/default/files/2019-09/PAG_Advisory_Committee_Report.pdf
2. Australian Institute of Health and Welfare. Insufficient physical activity. 2020. Available from: https://www.aihw.gov.au/reports/risk-factors/insufficient-physical-activity/contents/insufficient-physical-activity
3. Exercise and Sports Science Australia. Accredited Exercise Physiologist Professional Standards. 2015. Available from: https://www.essa.org.au/Public/Professional_Standards/The_professional_standards.aspx
4. Kunstler BE, Cook JL, Kemp JL, O'Halloran PD, Finch CF. The behaviour change techniques used by Australian physiotherapists to promote non-treatment physical activity to patients with musculoskeletal conditions. J Sci Med Sport. 2019;22(1):2-10. doi: 10.1016/j.jsams.2018.06.002
5. Shirley D, van der Ploeg HP, Bauman AE. Physical Activity Promotion in the Physical Therapy Setting: Perspectives from Practitioners and Students. Phys Ther. 2010;90(9):1311-1322. doi: 10.2522/ptj.20090383
6. Australian Government Department of Veterans' Affairs. Treatment cycle information for allied health providers. Available from: https://www.dva.gov.au/providers/notes-fee-schedules-and-guidelines/allied-health-treatment-cycle-and-referrals-0
7. Brooks D, Krip B, Mangovski-Alzamora S, Goldstein RS. The effect of postrehabilitation programmes among individuals with chronic obstructive pulmonary disease. Eur Respir J. 2002;20(1):20-29. doi: 10.1183/09031936.02.01852001

8. Moore SM, Dolansky MA, Ruland CM, Pashkow FJ, Blackburn GG. Predictors of Women's Exercise Maintenance After Cardiac Rehabilitation. J Cardiopulm Rehabil. 2003;23(1):40-49. doi: 10.1097/00008483-200301000-00008
9. Wycherley TP, Mohr P, Noakes M, Clifton PM, Brinkworth GD. Self-reported facilitators of and impediments to maintenance of healthy lifestyle behaviours following a supervised research-based lifestyle intervention programme in patients with type 2 diabetes. Diabet Med. 2012;29(5):632-639. doi: 10.1111/j.1464-5491.2011.03451.x
10. Casey D, De Civita M, Dasgupta K. Understanding physical activity facilitators and barriers during and following a supervised exercise programme in Type 2 diabetes: a qualitative study. Diabet Med. 2010;27(1):79-84. doi: 10.1111/j.1464-5491.2009.02873.x
11. Bourbeau J, Nault D. Self-management strategies in chronic obstructive pulmonary disease. Clin Chest Med. 2007;28(3):617-628. doi: 10.1016/j.ccm.2007.06.002
12. Australian Institute of Health and Welfare. A profile of Australia's veterans. 2018. Available from: https://www.aihw.gov.au/reports/veterans/a-profile-of-australias-veterans-2018/summary
13. Australian Institute of Health and Welfare. Health of veterans. 2020. Available from: https://www.aihw.gov.au/reports/australias-health/health-of-veterans
14. Gilson ND, Papinczak ZE, Mielke GI, et al. Effects of the Active Choices Program on Self-Managed Physical Activity and Social Connectedness in Australian Defence Force Veterans: Protocol for a Cluster-Randomized Trial. JMIR Res Protoc. 2021;10(2):e21911. doi: 10.2196/21911
15. Kunstler BE, Cook JL, Freene N, et al. Physiotherapists use a small number of behaviour change techniques when promoting physical activity: A systematic review comparing experimental and observational studies. J Sci Med Sport. 2018;21(6):609-615. doi: 10.1016/j.jsams.2017.10.027
16. Peek K, Carey M, Mackenzie L, Sanson-Fisher R. An observational study of Australian private practice physiotherapy consultations to explore the prescription of self-management strategies. Musculoskeletal Care. 2017;15(4):356-363. doi: 10.1002/msc.1181
17. Gilson ND, Papinczak ZE, Mielke GI, Haslam C, McKenna J, Brown WJ. Stepped-down intervention programs to promote self-managed physical activity in military service veterans: A systematic review of randomised controlled trials. J Sci Med Sport. 2021;24(11):1155-1160. doi: 10.1016/j.jsams.2021.06.008
18. Hsieh H, Shannon SE. Three Approaches to Qualitative Content Analysis. Qual Health Res. 2005; 15(9):1277-1288. doi: 10.1177/1049732305276687
19. Braun V, Clarke V. Reflecting on reflexive thematic analysis. Qual Res Sport Exerc Health. 2019;11(4):589-597. doi: 10.1080/2159676X.2019.1628806
20. Gould CE, Loup J, Kuhn E, et al. Technology use and preferences for mental health self-management interventions among older veterans. Int J Geriatr Psychiatry. 2020;35(3):321-330. doi: 10.1002/gps.5252
21. Abrantes A, Reddy M, Farris S, Greenberg B, Spofford C, McLaughlin N. Exercise Preferences and Perceived Benefits and Barriers of Physical Activity among US Veterans with PTSD. J Behav Health. 2017; 6(3): 111-119. doi: 10.5455/jbh.20170508111344
22. Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJF, Martin BW. Correlates of physical activity: why are some people physically active and others not? The Lancet. 2012;380(9838):258-271. doi: 10.1016/s0140-6736(12)60735-1
23. French DP, Olander EK, Chisholm A, Mc Sharry J. Which behaviour change techniques are most effective at increasing older adults' self-efficacy and physical activity behaviour? A systematic review. Ann Behav Med. 2014;48(2):225-234. doi: 10.1007/s12160-014-9593-z
24. Olander EK, Fletcher H, Williams S, Atkinson L, Turner A, French DP. What are the most effective techniques in changing obese individuals' physical activity self-efficacy and behaviour: a systematic review and meta-analysis. Int J Behav Nutr Phys Act. 2013;10(29). doi: 10.1186/1479-5868-10-29
25. Bandura A. Self-efficacy: The exercise of control. New York: Freeman; 1997.
26. Gray KE, Hoerster KD, Reiber GE, Bastian LA, Nelson KM. Multiple domains of social support are associated with diabetes self-management among Veterans. Chronic Illn. 2019;15(4):264-275. doi: 10.1177/1742395318763489

27. Kahn EB, Ramsey LT, Brownson RC, et al. The Effectiveness of Interventions to Increase Physical Activity: A Systematic Review. Am J Prev Med. 2002;22(4S):73-107. doi: 10.1016/s0749-3797(02)00434-8

28. Smith LG, Banting L, Eime R, O'Sullivan G, van Uffelen JGZ. The association between social support and physical activity in older adults: a systematic review. Int J Behav Nutr Phys Act. 2017;14(1):56. doi: 10.1186/s12966-017-0509-8

29. Lean M, Fornells-Ambrojo M, Milton A, et al. Self-management interventions for people with severe mental illness: systematic review and meta-analysis. Br J Psychiatry. 2019;214(5):260-268. doi: 10.1192/bjp.2019.54

30. Australian Physiotherapy Association. Standards for Physiotherapy Practices. 2011. Available from: https://australian.physio/sites/default/files/tools/Resources_Private_Practice_Standards_for_physiotherapy_practices_2011.pdf