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Raising awareness about physical activity: Pre-registrations student's action research finding

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Abstract

Physical inactivity is a global epidemic. Student nurses engaged in experiential learning to raise physical activity awareness to community groups via the initiative "Physical Activity Community Engagement" (PACE). Whilst doing so this allowed students to reflect on their own health behaviour. Action research using focus groups and photo-elicitation techniques were used to obtain students' opinion and experiences about their engagement with the PACE12 initiative. Three themes emerged from research data:" Graduateness", "Reflections", and "Making Connections".

Highlights

- Physical inactivity is the fourth risk factor for mortality globally.
- Nurses are ideally situated to raise physical activity awareness.
- Experiential learning allows a deeper knowledge and understanding of a subject, including physical activity as health behaviour.
- Embedding physical activity awareness in pre-registration nurse education should be mandatory.

Introduction

Engaging in physical activity brings multiple health benefits across life stages [1] and can help manage and prevent over twenty chronic illnesses [2]. Despite these benefits, one in four adults do not meet recommendations for physical activity, and over 80% of adults universally are insufficiently active [3], with physical inactivity known to be the fourth leading risk factor for mortality globally [4]. Physical inactivity is estimated to cost healthcare systems in excess of $5.5 billion worldwide [5]. In the United Kingdom, the cost of chronic diseases such as cardiovascular disease and diabetes due to physical inactivity was estimated to cost the NHS $900 million with over $6.5 billion spent on obesity/overweight related ill-health [6]. In Scotland, levels of individuals who are overweight or obese continue to increase with almost two thirds of the population reported to be in this category [7]. The Royal College of Nursing [8] stress the need for all registrants to promote and prevent ill-health as part of their role, however many nurses are unaware of this role [9]. The vision for future nursing is that there will be a significantly higher emphasis on health promotion to improve population health [10]. Given the rising epidemic in obesity related conditions due to inactivity, there is arguably a need for healthcare providers to prioritise their efforts to raise physical activity awareness.

Physical inactivity is a global concern and nursing students have access to a variety of individuals during their training where they could raise awareness of the associated risks. In the UK nurses should adhere to the Nursing and Midwifery Council (NMC) code, which is a set of standards relating to professional practice and behaviour. This code expects nurses to prioritise, practice effectively, preserve safety and promote professionalism and trust [11]. In pre-registration nursing programmes, the NMC is there to safeguard public health and well-being and includes standards for competence in nurse education. These standards are an integral part of the PACE initiative through the process of researching, organising, delivering and evaluating their community activity as a group.

Engaging in physical activity helps to prevent, as well as manage a number of long-term conditions as well as having a positive effect on mental and social wellbeing [12], and student nurses are ideally situated to promote physical activity to those in their care [13]. Integrated partnership working at national, regional and local levels across sectors could help to achieve this. Heath et al. [14] highlighted the importance of a well-trained workforce in the effective promotion of key physical activity. Despite nurses being aware of the benefits of healthy lifestyles, Bakhahi [15], concur that many nurses fail to engage in physical activity themselves. Almost seventy percent of Scottish nurses are overweight which does have an impact on their duties as health promoters [16]. Research by Esposito and Fitzpatrick [17] highlighted that nurses who are active themselves are far more likely rate the importance of promoting this to patients. Geok [18] concluded that student nurses who are less active themselves are unlikely to promote physical activity to patients in their care. Wilhelmsson and Lindberg [19] concur, suggesting that unhealthy health behaviour in nurses resulted in a reluctance to promote health. Kyle [16] are concerned by the number of overweight nurses and emphasised that this needs to be addressed

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as a priority. Healy and McSharry [20], stress that nurse educators have the ability to change the behaviour of tomorrow's health promoters. Schemes such as the 'Healthy Universities' support this notion that university settings play a 3 4key role in influencing health and well-being of students [21].

The intention of the PACE intervention was developed to encourage student nurses to engage with communities and promote physical activity to individuals at each life stage through experiential learning. Experiential learning is thought to be transformational, where learning is a continuous process grounded in experience [22]. Experiential learning was identified as appropriate as it is considered insightful to the learner [23]. It was envisaged that the student nurses would have a greater understanding of physical activity benefits both for themselves and for those involved in PACE as they had to source the evidence, they intended to promote to community groups. The key stages of PACE are detailed in figure 1.

Research aim

The aim was to evaluate the PACE initiative by exploring final year student nurses' attitudes, beliefs and experience of raising physical activity awareness.

The objectives were:

- to explore final year student nurses' attitudes and beliefs about their own commitment to raising physical activity awareness and their confidence in supporting others with this.
- to reflect on final year student nurses' experience of raising physical activity awareness through the PACE innovation.

Method

Design: Action research, an approach commonly used in educational settings, was used. It is well suited to this evaluation as it encourages engagement, not only with development and implementation activities but also the process of research [24]. It advocates a team approach to address issues and problem solve.

Sample and data collection

Principle inclusion criterion was final year nursing students who, as part of a nursing module, had delivered a health promotion intervention as part of PACE. All students were purposively invited to participate in this research by an independent public health consultant following the PACE initiative with no-one excluded. Eight PACE focus groups, which included a total of forty-five participants, were undertaken during the research process. The age range of the final year students ranged between 20 and 45 years and included both males (n=7) and females (n=38).

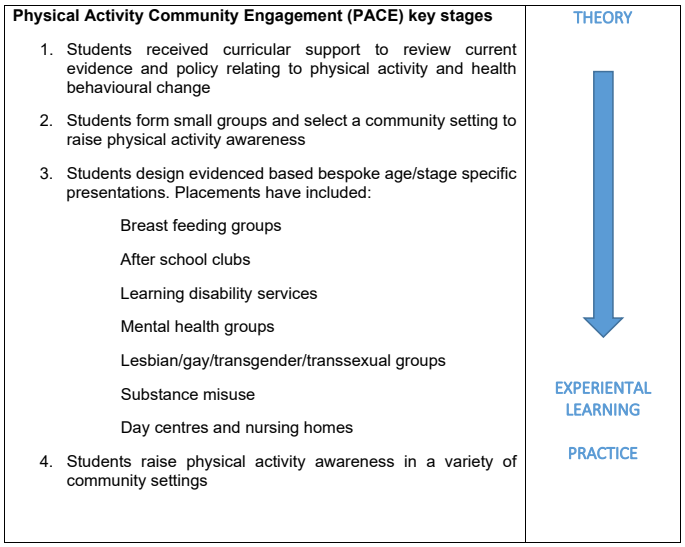

Figure 1. Stages of the PACE intervention

Data was collected between March 2013 and October 2014. Focus groups were used due to their ability to obtain collective insight into a shared topic in a permissible environment [25]. Focus groups lasted up to 60 minutes. Data collection was supported using both emotional touchpoints and photo-elicitation. Evidence suggests that the former is a powerful method to explore experiences gained about the topic as the emotion in itself cannot be disputed, thus making it a powerful lever for change [26], and therefore appropriate for capturing experiential learning from students in PACE. Touchpoint cards used included words such as; "training", "support", "getting feedback", "impact on others" "my experience". Photographs used during photo-elicitation are to stimulate dialogue [27], and the images offered were selected from NHS Education for Scotland envisions cards [28].

Ethical considerations

University Research Ethics Committee approval was sought and granted. Participants were invited to take part by an independent public health director. Signed consent was obtained and an option to withdraw from the research at any point. Audio recording did not start until the participants had given final consent. Transcribing was undertaken with a number allocated to each transcript to facilitate identification of different voices when referencing quotations. All information was stored electronically in a secure, password protected system, accessible only to the researchers.

Data analysis

Anonymised data was transcribed verbatim with member checking for accuracy following all focus group sessions. Braun and Clarke's thematic analysis technique was used, which is a qualitative, analytic method to identify, analyse and report patterns and themes emerging from data [29]. Table 1 summaries how this took place.

Findings

Three clear themes emerged: "Graduateness", "Making Connections", and "Reflections". "Graduateness"

"**Graduateness**: is a term used to describe the generic, expected qualities and attributes of a graduate [30], and include; academic excellence, interdisciplinary knowledge, leadership, awareness of cultures and diversity, and responsibility for active global citizenship [31]. PACE data revealed that the students gained increased knowledge and awareness of physical activity benefits both for themselves and those in their care; the need for adaptability, flexibility, creativity, good communication skills and using transferable skills; recognising team members strengths and weakness when presenting; and working together as a team to achieve outcomes. These skills are perceived as key employability attributes [32]. Additionally, participating in PACE enabled the development of teambuilding and leadership skills. Encouraging students to work in teams assists them to recognise each other's learning styles whilst considering the team's strengths, and weaknesses, allowing them to utilise each other's key skills [33].

"*I felt comfortable because I know these people and we knew what our weakness and strengths are when it comes to talks and who takes what role within the team*" Participant A Group (Group) 1.

Table 1. Thematic analysis guide

Thematic analysis guide (Braun & Clarke, 2006)	Actual steps taken with PACE data
Becoming familiar with the data	Interviews recorded verbatim and in-depth reading to familiarise researchers with data. Member checking to confirm meaning of transcripts to ensure accuracy.
Generating initial codes	All researchers initially coded all transcripts. Meetings to reflect on codes.
Searching for themes	All researchers searched for themes. Meetings to reflect on potential themes.
Reviewing themes	Principal researcher reviewed all codes and themes and refined these. Participant checking and reflexivity undertaken by researchers.
Defining and naming themes	Principal researcher defined emergent themes. Mind maps showing all codes and themes were made evident to the core team to ensure transparency. Following reflection, themes were confirmed and agreed by all to reduce bias and ensure trustworthiness.
Producing a report	Final meeting with action researchers to verify final themes prior to publication.

Team working cultivates positive attitudes and increased morale which can result in productive interactions and team relationships. This influences and fosters professionalism within individuals and groups. A degree of mutual respect and trust within the team is paramount to this though [34].

This student stressed the importance of trust within a team,

"*I felt trusted by my group and they trusted me to do my thing*" Participant. E Group 4.

Graduate skills also include the need for flexibility, creativity and the use of transferable skills [35]. This was demonstrated by the students;

"*We had to really think out of the box when working with the kids and become more creative with them*" Participant J Group 2.

"*we just had to go with the flow and adapt to meet the teenagers' needs and what they were prepared to do on the day*" Participant B Group 3.

In some cases, the students had good intentions about how to deliver their sessions, however quickly discovered that despite advanced preparations, delivery often had to be changed quickly to ensure the activity was appropriate to the needs and abilities of the participants. This challenges the students to continually access, reflect or adapt activities according to their participants. This adaptation may reflect on the dynamic and changing work environment nurses will encounter as professionals.

"*although we had planned our session carefully beforehand, on the day we had to alter it*." {in relation to a challenging group of older adults with dementia} Participant C Group 1.

Experiential learning gained through PACE appeared to have fostered graduate skills as many described attributes such as improved confidence, team-working and leadership skills as well as requiring skills in creativity and flexibility.

Reflections

Reflecting on experience is a key skill for nurses [36] and is also a customary practice with other health disciplines [37]. Reflections often include expression of feelings. It was not surprising that a number of emotions were expressed during focus groups. Bradbury-Jones [38] suggest that reflecting on nursing emotions is beneficial to the nurse themselves and those in their care. Mettiäinen and Vähämaa [39], concur and stipulate that shared feelings by nursing peers is thought to be highly supportive and also assists nurses in developing a deeper understanding of practical skills performed. Emotional touchpoints chosen by participants were rich in emotive words such as "scared", "respected", "thankful" and "valued".

Some students struggled with the concept of presenting publicly and were concerned that the community groups would not be supportive:

"*I felt vulnerable because someone of my size going out to talk about physical activity*" Participant D Group 2.

Overweight nurses have been reported to struggle to promote physical activity advice to individuals [15] yet presenting information to members of the public is a nursing role [11]. Therefore, students should be exposed to this experience prior to qualifying as registered nurses.

" *I was scared that we would just be repeating it [knowledge] and they would think why are you here, you students, telling us what we already know*" Participant E Group 1.

Awareness and knowledge of the benefits of physical activity are arguably not enough and reinforcing the message has been shown to improve engagement and behaviours with physical activity [40]. Tailored interventions has been shown to be more effective than providing education packages for nurse engagement in physical activity. Reinforcing the message can contribute to changing attitudes.

Communicating health behaviour change messages can be difficult for some healthcare professionals [18], and presentation anxiety is common in nursing students [41]. However, Fowler and Jones [42] believe that developing presentation skills should be part of the nurse curriculum to increase confidence levels. It was evident that students gained confidence following their experience with PACE.

"*I had so much to do and was worried beforehand, but once we had done it, it was so worthwhile- for the children and for my own benefit*" Participant A Group 5.

The effect of being involved in PACE was also encouraging:

"*Some nurses do not know the recommended exercise. I now feel I could discuss this with my mentors and other nurses*" Participant F Group 6.

"*I used to stand back and say nothing when the staff nurse didn't promote diet and exercise but now that I have done this [PACE], I would say it and promote health to the patients if she didn't and it needed to be done*" Participant B Group 8.

Photo-elicitation was also used during focus groups to invite students to sum up their experience of PACE and emphasised that PACE should be included within nurse education, recognising its importance of reducing sedentary behaviour in healthcare. This participant selected a photograph of a compass:

"*I picked the compass because I think the Government is heading in the right direction promoting exercise and healthy eating. Through this [PACE], I think the university has given us the skills and experience to learn and build on how to promote physical activity. We are now heading in the right direction*" Participant C Group 4.

Communication skills and presenting to others is a fundamental nursing role [42], though many nursing students find this daunting and experience anxieties. There is an expectation that registered nurses must communicate effectively, work together share knowledge and promote well-being [11]. Encouraging students to present to community groups,

even when some may find this challenging, should ultimately develop these competencies.

Making Connections

Experiencing PACE allowed the students to link the relevance and importance of raising physical activity awareness and how to apply this in practice.

When questioned using photo-elicitation, one student selected a photo of a head and brain and shared their reflection:

"*to me this represents the new knowledge I have gained through this experience [PACE]……it represents the future that I will keep updating my knowledge and evidenced-based practice and continually inform my patients about exercise and give them the knowledge they need to support them*" Participant A Group 2.

Nurses are expected to practice evidenced-based care as stipulated by the NMC, therefore this participant's reflection was encouraging in that she described the link between physical activity and evidenced-based practice.

A cross sectional study of physiotherapist graduates revealed that although they had the skills to analyse the evidence around care provision, in reality, graduates of this discipline struggled to apply this practically in the clinical setting [43]. This may suggest that there is a gap between class-based theory and implementation in practice. PACE may have bridged this gap in a practical and meaningful way, and this was evident within focus group discussions.

"*…stand up and reinforces what we are learning in class. Not just about us putting it down on paper-it's about delivering it to people and other organisations*" Participant B Group 1.

"*I was surprised because I thought I knew a lot about physical activity before I went out to our group, but I actually learned quite a bit more after delivering the session*" Participant E Group 6.

Participation in PACE also provided the student nurses with an opportunity to value their client group and also learn the importance of physical activity across the life course. This was imperative as it allowed intergenerational appreciation which is important to help grow an understanding of healthcare strategies with the older adult population. For example, one participant said;

"*Before going out to do our session, I couldn't see the point in teaching older folk about exercise, but since doing our session, I can really see now how exercising will help them to remain independent*" Participant B Group 4.

Maschi [44], concur that experiential learning with the older adult population can foster students respect for the elderly and helps reduce bias. Intergenerational physical activity promotion has been shown to improve activity levels amongst the older adult and provides positive health benefits [45]. It was apparent that many students involved in PACE had not realised the benefits and significance of physical activity in relation to falls prevention and promoting independence with this age group prior to their activity. The impact on costs to the NHS and social care due to falls is estimated at around 2.8 billion dollars per annum in the UK [46], and the significance of promoting physical activity to this age group was soon realised by the students. An awareness of diversity and cultural sensitivity within populations is crucial when delivering health education [47] and this was also realised:

"*It is important to include everyone in it [PACE] and show respect for the differences that are there whether age, male, female, culture race. It should not matter; you should appreciate when you are dealing with people they will be different and everyone will take something away. Some may appreciate more than others*" Participant D Group 7.

Rich and Thomas [48] endorsed that diet and physical activity health promoters required to develop culturally defined health promotion programmes for diverse groups. Through PACE the students developed an understanding of personalising health behaviour messages, self-efficacy and individualised, care in a compassionate way particularly when presenting to vulnerable groups. A patient-centred approach is fundamental when planning and caring for individuals. It was interesting to note the students' feedback after their health promotion activity:

"*….it was appreciating that the service users had different abilities, needs and wants. Some of the service users were unable to participate in the actual physical activity ……we ensured everyone was involved and included though*." Participant C Group 8.

This research highlighted the premise that promoting physical activity in an experiential way does assist student nurses to develop a deeper understanding of the benefits of physical activity to both themselves and others. Orr, [13] recommended that nursing curricula should include physical activity promotion. This was evident from comments made:

"*I feel hopeful that this opportunity will focus student nurses minds on not just the practical skills you learn as a nurse but the fact that it is a responsibility to promote physical activity no matter where we end up practicing and I am hopeful educational establishments looking at this will promote this with student nurses and when they become registered nurses*" Participant A Group 6.

"*I was at the pre-contemplation stage myself and this [PACE] just hit it on the head that I needed to do something about myself. It has helped me. I will keep losing weight and I feel now how important this is. It [PACE] has helped me realise- it's about me and others*" Participant H Group 4.

Applying physical activity in practice developed student appreciation of the health benefits of physical activity. By contrast, this understanding is often lacking in the existing workforce with less than fifty percent of health professionals reported as being aware of physical activity guidelines [49].

"*It is actually quite frightening to think that registered nurses do not understand and don't know to promote physical activity and healthy eating in their daily routine. This needs to be addressed and should be mandatory*" Participant C Group 3.

The results from the PACE research strongly advocates integration of physical activity into the curriculum.

Limitations

The PACE initiative was an intervention embedded within a final year nursing module as part of nurse training. Student nurses therefore could not opt out from participating in PACE. Only students who consented to participate in the evaluation of this study however engaged in the research.

Discussion

Increased physical activity was expressed as a positive outcome of participating in PACE. In particular, students were able to identify how they felt not only about their own physical activity, but about that of

others. It is known to improve concentration levels, improve physical and mental fitness, as well as improving workforce morale and retention rates including reduced absenteeism [50]. It is therefore vital for nurses to increase their own physical activity levels themselves to allow them to promote this to others as well as keeping a healthy workforce. Sustained physical activity also has the ability to enable personal professional development in terms of improved confidence and self-esteem. Working as a team has also shown to improve self and patient satisfaction [51], which is an invaluable skill for nurses. Participation in PACE did allow students to develop and experience these graduate attributes. PACE has enhanced student nurses' insight into the need to be physically active both in themselves and those for their care. It had been anticipated that learning from the evaluations would influence the design for embedding physical activity health promotion within the curriculum in subsequent years. The findings from the data appear to support the theory that experiential learning through the PACE initiative impacts on the level of knowledge learned by participants. Students also reported making personal changes in relation to their own physical activity levels and described how they approached patients following this activity. More recently, anecdotal success stories have been reported back to the university from ex- students who have put this learning into practice as registered nurses. Further research using a mixed method approach to include quantitative data would be insightful to demonstrate how PACE influences practice.

There is a need to consider implementing this type of initiative within education however there are implications in relation to curriculum restrictions and design. It has been disputed that there are a number of other important subjects pertinent to pre-registration to support holistic health and well-being which should be included within nurse training. Arguably with the global incidence of mortality and morbidity in relation to physical inactivity and soaring obesity rates, there is a strong case that physical activity awareness should be mandatory given that health professionals are ideally situated to promote this topic. In addition, National Institute of Clinical Excellence recommend that health professionals working in primary care should identify inactive individuals, deliver and follow up on physical activity advice given. With this in mind, it could be contended that this should be a priority within nurse education. Research has shown that sustained physical activity has a positive effect on the number of fitters, healthier nurse role models. In addition, physical activity is known to increase mental and physical well-being as well as increased self- esteem in nursing students [52]. Whilst there is a need for nurses to act as role models, support in educational and organisations environments is key [9].

Conclusion

If PACE was part of every pre-registration nursing curriculum, the number of individuals in society in receipt of physical activity awareness education could increase substantially, potentially contributing to increased physical activity levels reducing the burden of disease associated with sedentary lifestyles. This research may enlighten other healthcare providers to consider how they might drive physical activity awareness forward within their own disciplines as the PACE approach does impact on nursing behaviours and increases graduate skills.

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