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Evaluation of edna: arts and dance for older people

Abstract

Purpose

To evaluate the impact on health and wellbeing of participation in dance and arts activities by older people living in the community.

Design

A small-scale, mixed methods research design comprising pretest-posttest evaluation of a three month dance and arts programme. Two groups of older people underwent physical measures and completed a self-report quality of life questionnaire. Written comments and interview data were also gathered.

Findings

Physical tests (n=14) demonstrated improvements in posture, shoulder mobility and balance in both groups following the intervention, with some measures reaching statistical significance. Quality of life evaluations (n=21) also showed improvement, with the mental health subscale reaching statistical significance. Qualitative data showed that participants enjoyed the programme and felt physical, psychological and social benefits.

Research limitations

The research involved only a small sample of volunteers and a limited programme length which limits its generalizability. The absence of a control group means that causality cannot be inferred. Future research should extend recruitment to a wider geographical area and a longer intervention which includes a control group.

Practical and social implications

Future arts interventions for older people should include consultation prior to, and throughout the project. Commissioners should consider supporting arts for health projects, building in additional funding for evaluative work.

Originality

This study has added to the evidence base through combining art forms within a mixed methods framework, illustrating the interplay between the art forms, the outcomes and the potential role of social context.

Keywords: Dance, arts, older people, health, wellbeing.

Paper type: Research paper.

Background

The changing nature of the demographic profile of the UK is well rehearsed, with the number of individuals of pensionable age projected to rise from 12.2 million in 2010 to 15.6 million by 2035 (Office for National Statistics [ONS], 2012). Older people are increasingly likely to account for a significant proportion of health and social care service resources but also have the potential to contribute to society (King's Fund, n.d.). This presents a challenge to service providers to seek innovative ways to maximise the health and wellbeing potential of the older population to enable them to do this.

Increasingly, attention has been paid to the contribution of the creative arts as a cost-effective health-promoting intervention, in comparison to other medical options, for this age group and this journal recently devoted an issue to the topic. There is now a growing body of evidence for the benefits to older people of individual art forms, for example music and singing (Skingley and Vella Burrows, 2010), theatre arts (Noice et al., 2004) and storytelling (Phillips et al., 2010).

Dance, as an art form for older people, has been subjected to a certain amount of research. Kattenstroth et al., (2013) reported on a six-month dancing class (1 hour a week) for healthy older individuals which compared the outcomes of participants with a control group. After six months, beneficial effects were found in posture, reaction time, cognitive, tactile and motor performance as well as subjective wellbeing. Interestingly the study also found that the individuals who benefited most were those who had the lowest performance prior to the intervention. Bicknell (2014) chose a case study approach to illustrate social and emotional, as well as physical and mental, benefits to older people of dance-theatre, with its extra performance dimension. A literature review (Connolly and Redding, 2010) supported these positive findings, concluding that:

“dance can have a positive impact on both the physiological and psychological status of older people. More research is needed, however, to explore these areas further and

perhaps more vitally, to disseminate the potential benefits of dance to the wider public.”
(p.4):

In addition to single intervention studies, a limited amount of evidence exists to support the beneficial effects of programmes which combine different art forms. Elliott et al., (2010) evaluated a six-week mixed arts programme delivered to residents with dementia in a supported housing setting using qualitative methods. The authors reported that at the end of the programme, which combined dance, painting, music and drama, there were a number of identifiable benefits including skill-building and concentration, respectful and creative relationships and a sense of wellbeing and social engagement. They also commented that the various art forms complemented and reinforced each other and assisted memory recall.

The Mental Health Foundation (2011), in an evidence review of the impact of participatory arts on older people, included five visual art projects and four dance projects. Though findings were positive, the authors concluded that further research and evaluation is needed and recommended that commissioning agencies should recognise the importance of including additional funding for evaluation in their plans.

The edna (energise, dance, nourish, art) pilot project was developed as a result of funding from the North Kent Local Authorities Arts Partnership (NKLAAP) and sought to build on previous research by delivering and evaluating a cross-art programme to older people based in two communities in North Kent, South East England. The blending of visual arts and an activity-promoting art form (creative dance) within the programme was intended to combine the benefits of these different disciplines to enhance both psychosocial and physical functioning of participants attending. The project was a collaborative initiative with partners representing local authorities, artists and a university department, coordinated by a freelance project manager.

Aim

The aim of the research was to evaluate the impact on health and wellbeing of participation in dance and arts activities by older people living in the community.

Research design

The research adopted a pretest-posttest approach, conducted around a specially designed dance and arts programme. Due to the variety of potential benefits arising from arts and health interventions, as identified in the literature, it was decided to take a mixed-methods approach to evaluation (Creswell and Plano Clark, 2007), comprising physical and psychosocial data captured through both quantitative and qualitative methods.

The sample was recruited by one of the authors (LN), the freelance project manager. Contact was made with local organisations involved with older people (Medway Older People's Partnership, Age UK, Community Voluntary Services, 50+ Forum, Carers First) and the project publicised through talks, literature and networking. Participants were invited to attend one of two information and recruitment sessions at each venue where they would also experience a 'taster' of the activities which would follow. These sessions attracted a total of 38 individuals.

Evaluation methods largely comprised standardised research measures, administered at baseline and follow-up:

- Postural assessment (Kuo et al., 2009). A video recording of participants standing neutrally (front, side and back views) and 2D analysis software is used to monitor changes in alignment from anterior, sagittal and posterior views.
- Shoulder mobility (Cook et al., 2006). This tests for flexion, extension and rotation of the shoulder. Following pre-participation screening, participants are asked to place one fist at the back of the neck and the other on the lower back. Participants are instructed to try and make the fists touch whilst staying in line with the spine. The

distance between the two fists is measured before the test is repeated, alternating sides.

- Balance assessment (adapted from Berg, 1989). This comprises 15 mini-tasks which reflect daily activities participants are likely to encounter. These are scored by the observer, using Berg's pre-defined descriptive scoring scale.
- Self-reported quality of life (QoL) (WHOQOL BREF - Skevington et al., 2004). This is a 26-item questionnaire which has been devised to measure four domains of QoL: physical, psychological, social and environmental. It is widely regarded as a valid and reliable research tool for research on health status, wellbeing and QoL based on the World Health Organisation (WHO) model of health and wellbeing.

In addition data were gathered on participant-led responses through:

- o An invitation to write comments on the end of the WHOQOL questionnaire
- o A short questionnaire, devised by the researchers and administered post-intervention. This covered topics related to personal outcomes following, and related to, the project.
- o Conversational interviews conducted with a small sample of participants covering a broader range of topics including motivation to join, comments on the research conduct (information provision etc.), suitability of venue, highlights of the project and things that could be improved.

Intervention

A mapping exercise took place to identify where there was little or non-existent engagement in the arts for older people in two areas of North Kent (Medway and Gravesham) covered by NKLAAP. Two venues for the project were identified, based within electoral wards where venues were accessible and available and familiar to participants, promoting a safe environment.

Two professionally trained and experienced artists co-delivered a programme incorporating both dance and arts, for two hours per session, over twelve weeks in the summer and autumn of 2013, concurrently in Medway and Gravesham. The project manager supplied an artistic brief for both artists that provided a starting point and guidance to leading sessions

based on the themes of:

- Memories
- Communication
- Light and Colour
- Layers and Texture

The programme was designed to:

- Increase active engagement and participation in arts activities by older people in the two areas.
- Increase older people's skills to promote and facilitate safe and functional daily living.
- Increase access to high quality arts provision by commissioning experienced artists who wish to professionally develop their work with older people and transfer their skills.
- Work in partnership, to increase ownership and empowerment.
- Explore, develop and implement approaches to psychosocial and physical measures.
- Tackle disadvantage and health inequalities.

Ethics

The proposal was submitted to the research governance lead at the university involved, who confirmed, in line with the university guidelines, that the project would not need approval from the faculty ethics committee. An information sheet was prepared for participants and informed, signed consent sought from those agreeing to participate.

Data analysis

Physical data were analysed using SPSS v.21. Participants' scores for posture, shoulder mobility and balance were analysed using a Paired Sample T-test, to assess for changes in scores. The scores for each of the 15 balance tests were also analysed using Paired Sample T-tests, to look for significant changes within individual tasks as well as overall score.

The psychological quantitative data from the WHOQOL BREF were also imported into SPSS v.21 and the scores converted to transformed scores as per the WHO guidelines (WHO, 1996). This results in item scores in the range 4-20. Data were subjected to simple statistical analysis, including testing for significant pretest-posttest differences in the four QoL domains and for relationships between outcomes and other variables (recent arts activity, age, attendance).

Qualitative data were transcribed and subjected to template analysis (Waring and Wainwright, 2008). This method makes use of a coding template, with pre-defined or 'a priori' initial codes being based on either the theoretical position of the research or specific questions which are being asked. These codes may be modified, or added to in a hierarchical manner (i.e. through sub-codes) as data from comments and interviews are applied to the template, while also allowing for a quantification element. This makes it well suited to the current study, with its specific questions, while collecting subsidiary data provided by respondents around their experiences of participation in the project was also integrated.

Findings

Sample profile

Follow-up measures for the physical tests were recorded for 100% of those measured at baseline (n=14). Follow-up WHOQOL BREF questionnaires were returned from 87% respondents (n=21). One of these dropped out of the programme but continued to return the questionnaire. The age range of participants was 53-90 years (mean 71.1) with those in Medway having a higher age profile than those in Gravesend (75.1yrs to 68yrs respectively), which contrasts with the overall demographic profiles of the areas in which the project took place.

Based on the questionnaire sample, the group was equally divided between those who had continued in education beyond minimum school leaving age (n=10) and those who had not (n=11). Two thirds had not participated in any dance or arts activities in the previous six months, with proportionately more in Medway having done so.

Posture

Within both groups, all participants demonstrated an improvement in their posture at the posttesting stage. In the Gravesham group there was a significant improvement ($P<.05$) in the horizontal alignment of the shoulders at posttest (i.e a lower deviation score), while in the Medway group there was a significant improvement ($P<.05$) in the alignment of individuals' hips.

Shoulder mobility

A lower score indicates a smaller distance between the fists and therefore greater shoulder mobility. Results indicate that left shoulder mobility significantly improved within both groups ($P<.05$) (figure 1). Although there were no significant improvements within right shoulder mobility, the mean score of right and left shoulder mobility for both groups decreased from pretest to posttest. There were no significant changes in bilateral difference within either group.

Balance

Each task could score between 0-4, with 4 being the highest, and were marked subjectively by the researcher. Within both groups there was a significant improvement in balance scores ($P<.005$) (figure 2). There were differences observed between the two groups within scores of each task. In the Gravesham group significant improvements could be seen in tasks which involved sitting to standing, turning to look over left and right shoulder whilst standing and balancing on one leg. Within the Medway group significant improvement in score could be seen in tasks involving standing unsupported with their feet together.

Quality of life

The WHOQOL data showed an increase in the post-intervention mean combined scores when compared to the baseline scores, indicating some improvement in the overall health profile, although this was not significant. When analysed by domain, there was a significant combined difference in domain 2 (psychological health) following the edna programme when compared to the baseline scores ($t(20)=-2.259, P<.05$). This was due to the greater improvement shown by the Medway group compared to Gravesham (figure 3). There was non-significant overall improvement in domain 1 (physical health), while the Medway group (but not Gravesham) also displayed non-significant improvements in the other two domains (social health and environment). Although a greater number of participants who had no previous arts experience showed benefit post- project, there was no statistically significant association found between these two variables in terms of post-intervention gain in quality of life score (Chi Square = 1.615, $P=.204$).

Interview data and written comments

Although data from interviews and written feedback were collected at one point in time, the content related to participants' experiences over a longer duration, covering: pre-project thoughts (Time 1); process issues (Time 2); impacts (Time 3); and thoughts on the future (Time 4). These four time bands served as an overarching framework within which the template, based on the questionnaire and interview items, could be constructed. Findings below incorporate both the interview and questionnaire data.

Time 1 Motivation and expectations

Interviewees (n=6) were asked what motivated them to take part in the project and whether their expectations were fulfilled. For three respondents the main motivator was the fact that they saw the programme as offering something different, while two mentioned being curious or nosy. One participant specifically talked about expecting some benefit to result, while another was inspired by the enthusiasm of the artist who invited her (and who

she knew already). A further reason, given by one participant, was because they were looking for something to do.

Time 2 Process issues

a) Venue and timing

Of the two settings, the Gravesham venue was the most central and was endorsed as 'brilliant' and 'good' by respondents, in view of its central location and the fact that it is well served by public transport. Medway respondents were also satisfied, though they were more dependent on lifts in order to access the venue. Afternoons were felt to be the best time as dark evenings could be a deterrent to going out.

b) Programme delivery

Participants were asked to rate the overall delivery of the project on a scale of 1-10 (10 being the highest). A total of 13 (out of 20) gave full marks to the project, with a higher rating given by Gravesham participants, and only 2 individuals giving lower marks than 9. This indicates a high level of satisfaction with the programme.

b) Research conduct

Interviewees were asked whether adequate information had been provided about the research component of the project. Only one individual thought not enough information had been provided, with others commenting that the information was 'very clear' and 'professional'.

Time 3 Outcomes

a) Enjoyment

The edna questionnaire asked about what respondents had enjoyed most about the project. The greatest source of enjoyment expressed pertained to the social side (n=14) and included meeting people and doing things in a group. This response emerged equally from both groups. Nine respondents referred to specific activities (e.g. modelling, exercising to

music) or the fact that all activities were enjoyable. Also enjoyed were the variety, the fact that the programme was 'different', 'fun' or because of the leaders.

b) Skill acquisition

In answer to the question about learning new skills, ten respondents referred to art-related activity and seven to dance/movement-related activities. Others mentioned cross-art or non-specific skills such as ability to express feelings, improvisation and freedom of expression. Three individuals felt that they had not acquired new skills.

c) Benefits

The questionnaire specifically asked what benefits had resulted from participation in the project. In addition, all interviewees spontaneously referred to benefits, which can be classified under physical, psychological, social or skill/activity related.

i) Physical

Nine respondents referred to improvements in physical wellbeing including shoulder movements, posture, breathing, feeling energised or generally talking about benefits of movement and exercise:

'Well I think it's helped loosen my body up. One thing I particularly noticed is I'm more conscious of trying to keep my posture properly because we did these exercises where, with the breathing and rolling your shoulders back and keeping yourself upright and breathing better' (Participant G03, Female, age 71)

ii) Psychological

Eight individuals referred to psychological benefits including greater confidence (n=3), enjoyment/fun, becoming calmer, losing inhibitions and feeling uplifted:

'And it just showed me things that I can do and it's increased my confidence, it certainly got rid of my writer's block – I've been writing more since starting this and leading me in new directions of art and creativity' (Participant M10, Male, age 67)

'I come away from here each Friday feeling good and uplifted, definitely and I look forward to the next Friday' (Participant G02, Female, age 73)

iii) Social

Social benefits formed the largest category of questionnaire responses (n=11) to this question from both groups, with a greater number from Gravesham (7) doing so than Medway (4). This was also a frequently expressed benefit in interviews, where social activity was often linked with (often inaccurate) perceptions of older people and how they like to spend their time:

'Well, I've always been a lady who loves clubs and funnily enough when you get near 90 people expect you to be all the same in a club of 90 year olds. So for me I've had great fun with people being in their early 60s – that's been terrific for me' (Participant M03, Female, age 87)

'You don't have many meetings for older people where you have fun. Some of the meetings are good – perhaps you listen to a speaker or some music or something and they're good. Others, people tend to think because you're old, all you're fit for is tea and bingo. But edna is fun – it's fun to do the activities, we had some laughs. You can't go anywhere else as an older person and get that sort of effect' (Participant G03, Female, age 71)

'I think really what edna has meant for me is meeting people. I love meeting people and I think we've been very lucky with the people that have introduced us to this course and have organised the whole thing'
(Participant M01, Female, age 90)

iv) Skill and activity-based

Five individuals mentioned a skill-based benefit from participating in edna and references were made generally to 'new skills', 'latent creativity awakened' etc. This dimension was also referred to in interviews:

'It's given me so much confidence that I've taken up sewing, knitting, card-making and felt projects' (Participant G02, Female, age 73)

Time 4 Future

The edna questionnaire asked respondents what type of activity they would like to be involved in for the future. A large proportion (n=13) of responses indicated that participants would like 'more of the same', 'similar' or referred to both art and dance. A further three referred specifically to the dance/exercise part of the programme and one to the art side. Two respondents were not sure what they would like to see. Clearly this implies a desire for this type of programme to continue and this is reinforced in the interview data:

'I think edna ought to be put on the NHS. You could always put to the authorities how much money would be saved and there wouldn't be as much pressure because if ...people were able to come to EDNA sessions they would feel a whole lot better and they wouldn't need to go to the doctor or maybe not even go to the hospital so often' (Participant G03, Female, age 71)

Conclusions from mixed methods analysis

The overall tenor of the data from all of these viewpoints is undoubtedly positive in terms of the acceptability of the programme to participants and its ability to offer a variety of benefits to health and wellbeing.

Looking in more detail at the findings from the different methods, the evidence clearly points to a number of areas of convergence but also to some apparent contradictions, this being most noticeable when comparing the quantitative data with evidence from participants in their own words and reflecting their own experience. For example, though the Medway group demonstrated a significant difference between baseline and follow-up scores in the psychological domain of the WHOQOL, the qualitative data appeared to stress

the physical benefits more strongly. For the Gravesham group the WHOQOL data suggested a negative movement in the social domain of the WHOQOL score, but this was the area that attracted the largest group of positive comments noted in written and verbal feedback. Both groups commented on physical improvements and some significant findings were noted in objective measures of posture, shoulder mobility and balance. However, neither group showed a significant difference between baseline and follow-up in the physical domain of the WHOQOL.

The apparently contradictory nature of the evidence need not necessarily present a problem since the mixed methods approach has set out to provide complementary, rather than confirmatory evidence. This uses an integrative, rather than a corroborative logic and can thus convey a better sense of the whole, as May (2010) has suggested. In this case the complementary nature of the data can be seen to serve two purposes: firstly it serves an explanatory function and secondly it provides a more nuanced account of what is happening to individuals during the edna sessions.

The explanatory function can be seen, for example, in the way the individuals in the Medway group gave prominence to physical improvements. Although on the WHOQOL scores the improvement did not appear great, in specific areas of physical health – namely those where measurements were taken based on a judgement that they are required for daily activity – improvements were both measured and experienced. This provides a possible explanation for findings based on the importance attached by participants to certain activities based on their usefulness.

The nuances within the data appear in the participant testimonies, where individual examples of benefits help to operationalise some of the concepts related to quality of life. This can be seen in the participant whose increased confidence got rid of his writer's block or the participant who felt inspired to take up sewing, knitting and card-making. There is a suggestion here that researcher-imposed categories within questionnaires may not reflect the meanings experienced by participants.

The mixed methods nature of the research has therefore provided valuable evidence to suggest not only that the edna project contributed to health and wellbeing in a number of ways, but also to begin to identify which particular ingredients of what might be termed a 'complex intervention' (Craig et al., 2008) are valued and how they might contribute to the overall outcomes.

Findings from this project broadly support those from previous studies, enhancing the knowledge base in this field. The ability of participatory arts to impact on engagement and overall wellbeing, as reported by Sheam (2011) was clearly apparent in both the WHOQOL and data from participant testimonies, while the benefits of dance to both physiological and psychological wellbeing (Kattenstroth et al., 2013; Connolly and Redding, 2010) has also been illustrated. Fewer studies previously have combined art forms within a mixed methods evaluation, and in this way the current project has made its own contribution to the area. Of particular interest is the possible interplay both between the art forms and between the various outcomes for participants. Most participants' feedback indicated that the programme was viewed as a package, since they requested 'more of the same'. Similarly, the outcomes, though measured discretely, are strongly suggestive of the interaction between the physical and psychological (and, indeed, the social) dimensions of wellbeing. For example, it may be that performance in some of the physical tasks, such as maintaining posture and balance, could be linked to improved confidence, acquired through the psychosocial impact of sustained group work over twelve weeks.

The differences between the groups within the findings is also noteworthy. Although participants within both venues showed improvements in physical measures (albeit different ones) there was a marked divergence in the actual WHOQOL scores, with the Gravesham group consistently displaying a poorer health profile than that of Medway over the time of the project. While the Medway measures, even at pretest, were largely in line with estimated age-related population norms (Hawthorne et al., 2006), those within the Gravesham group were markedly lower. Posttest measures for Medway were therefore above population norms, while Gravesham measures remained below. It is likely that these findings reflect the profile of the local ward area in terms of the low levels of health and high levels of deprivation and social isolation, measures which are known to be linked to

health status (RCN, 2012). The social context therefore may have hindered more marked improvements for Gravesham participants, however their testimonies, as well as more objective measures, suggest that improvements in wellbeing are certainly possible, if perhaps less marked and may only manifest over a longer period of intervention than the twelve weeks of this project.

Limitations of the research

This small scale pilot project is intended to serve as a feasibility study, exploring both the practicability and the methodology of running and evaluating a dance and arts programme for older people within an area with limited access to such provision. The positive results are encouraging, however, the small size of the sample is acknowledged, together with the fact that participants were volunteers, which limits the generalizability of the findings to a wider population. In addition the absence of a control group means that no causal relations between the intervention and outcomes can be inferred. Having said that, attrition was low, suggesting that the programme was both popular and feasible in terms of material and access for the target audience.

Recommendations for future research

In order to build on this research it is suggested that a larger sample be recruited covering different geographical areas and a longer programme be conducted. To strengthen the research design the introduction of a control group would add credence to claims of causality, while the randomisation of participants to the two arms would ensure that variables were equally distributed across the sample. It would also be useful in future research to explore further the links between the individual demographic characteristics and findings and also between the physical and psychological measures. In order to advance the theory behind the benefits of arts for older people further research should explore some of the emerging explanatory mechanisms which may underpin the current project. Finally any randomised controlled trial should include a cost-effectiveness evaluation to inform decision-making by funding bodies.

Recommendations for future arts interventions

It is recommended that future arts interventions for older people should include consultation prior to, and throughout the project. This will empower people and maximise full engagement, while giving people a choice on what arts interventions they want to engage in is likely to enhance their own experience as well as those of the artists.

It is also suggested that both arts and health commissioners consider supporting arts for health projects involving older people and that they build in additional funding for further evaluative work.

Implications for practice

- Older people can benefit physically, psychologically and socially from engagement in a variety of participatory arts activities.
- Programmes should be designed in consultation with older people themselves and led by experienced practitioners.
- Arts and health commissioners should consider supporting arts for health projects involving older people.
- Evaluative work should include both objective, physical measures and evidence of participants' own experiences where possible to maximise data coverage.

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Figure 1 Medway and Gravesham pretest-posttest left shoulder mobility

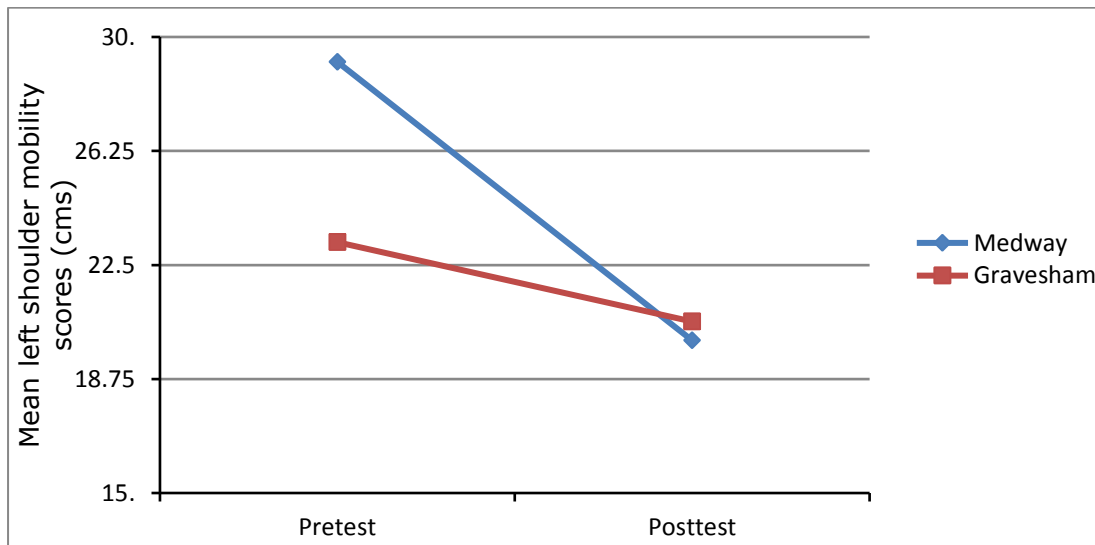


Figure 2 Medway and Gravesham pretest-posttest balance scores

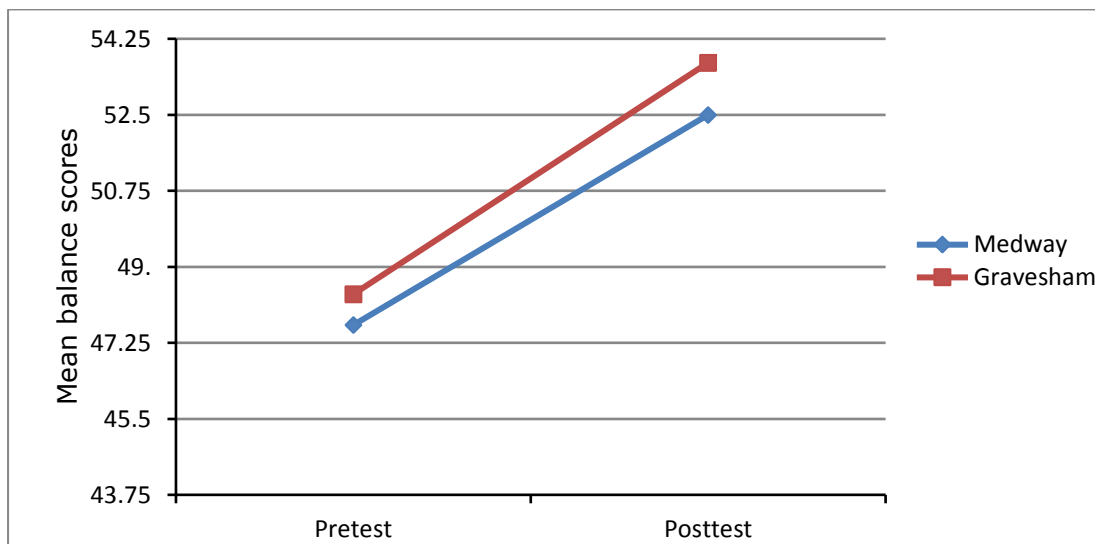


Figure 3 Medway and Gravesham pretest-posttest WHOQOL BREF scores on psychological domain

