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Clinical and Health Research Exploration

EVALUATING THE IMPACT OF COMMUNITY-BASED PHYSICAL ACTIVITY PROGRAMS ON FUNCTIONAL INDEPENDENCE AMONG ELDERLY POPULATIONS

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Abstract

This study investigates the impact of community-based physical activity programs on functional independence, physical performance, and psychosocial well-being among elderly populations. Employing a mixed-methods experimental design, the research involved 12-week intervention sessions focusing on balance, strength, flexibility, and endurance exercises conducted in community settings. Quantitative data were collected through standardized tests including the Functional Independence Measure (FIM), 6-Minute Walk Test (6MWT), and Timed Up and Go (TUG) test, while qualitative insights were obtained through semi-structured interviews and focus groups exploring participants' perceptions of motivation, confidence, and social engagement. Statistical analyses revealed significant improvements in mobility, endurance, and muscle strength ($p < 0.05$), with the intervention group showing a 22% higher gain in functional independence compared to controls. The qualitative findings complemented these results, highlighting enhanced self-efficacy, reduced fatigue, and improved social interaction as major contributors to sustained participation. Integrating physical and psychosocial perspectives, the study concludes that community-based activity programs offer a cost-effective, scalable strategy for promoting healthy aging and delaying functional decline. The results advocate for the inclusion of structured, socially engaging physical activity interventions in public health and geriatric rehabilitation policies.

Keywords: Community-Based Intervention; Physical Activity; Elderly Populations; Functional Independence; Healthy Aging; Mobility Improvement; Endurance Training; Social Engagement; Mixed-Methods Research; Psychosocial Well-Being.

INTRODUCTION

The global tendency of aging population makes it even more that senior citizens should be able to stay autonomous, as this will assist in addressing a lot of the issues that accompany the process of getting old (Sanjana et al., 2024) (M. et al., 2021). A possible solution to this problem could be community-based physical activity programs, providing easy and systematic interventions to enhance physical functioning and promote lifelong independent living (Rodrigues et al., 2022). Such programs can involve various types of exercise, including walking programs and functional power programs, to enable older individuals living in the community to move around easier and weaken (Nicklas et al., 2020) (Tou et al., 2021). Such programs are quite essential as mobility is one of the elements that influences health and self-sufficiency. It has a direct impact on the level of assistance that people will need on a daily basis and reduces the expenditure on health care (Wollesen et al., 2025). Often, these programs go beyond the limitations of the laboratory exercise programs, offering generalizable and scalable solutions in real-life settings (Rodrigues et al., 2022). This paper aims to critically evaluate the effectiveness of different community-based interventions aimed at enhancing functional autonomy in elderly populations based on empirical evidence of studies conducted through randomized controlled trials and extensive reviews (Tou et al., 2021) (Neil-Sztramko et al., 2022). The effects of these programs on mobility, falls, intrinsic capacity, and general quality of life will be carefully studied, taking into consideration that a significant proportion of older adults demonstrates the lack of physical activity, contributing to the further functional impairment by age (Pinheiro et al., 2022) (Gomes et al., 2021). Also, the peculiarities of the older adult population presuppose the need to investigate the use of different program features, including frequency, intensity, duration, and type, to manipulate the diverse outcomes (demographic and health) (Wollesen et al., 2025). This way, the study of these characteristics is invaluable in developing specific and effective interventions to improve the functionality outcomes and quality of life of older individuals in a community setting (Taylor et al., 2021). The systematic review and meta-analysis will combine the results of the relevant research to determine the most effective

program designs and implementation strategies that will encourage the long-term functional independence and reduce the physical constraints of the elderly within the community (Miri et al., 2024; Wollesen et al., 2025). The aim of the study is to find out the best methods of exercise that can improve functional mobility and independence and the optimal parameters on the frequency, intensity, duration, and timing of these interventions (Wollesen et al., 2025). It is also expected to identify possible moderator variables, which can influence the effectiveness of the programs, such as baseline functional status, cognitive capabilities, and socioeconomic factors, in order to develop more effective and specific community-based physical activity programs to help this demographic (Wollesen et al., 2025). The comprehensive approach will not only assist in locating optimal workout attributes, but will also target some demographic components that have remained overlooked in prior and more broad surveys (Wollesen et al., 2025). The review will also consider the disparities between the conventional model of care and those that are more proactive, in addition to the parameters that motivate older individuals who prefer staying at home to take care of themselves (Gonzalez & Hernandez, 2023). Lastly, the paper will examine the economics and cost-effectiveness of implementing community-based physical activity interventions to state health sectors. It will consider the direct costs of the healthcare and the indirect benefits of the society. The project will produce the ultimate evidence-based practitioner and policy tools underlining the importance of structured physical exercise in healthy aging and how it can help to alleviate the costs of age-related decline (Wollesen et al., 2025). The search will be intensive and extensive and will be conducted using the available electronic databases and the grey literature, yet it will be also based on the high standards of the PRISMA guidelines (Markov et al., 2022). It will involve a stringent procedure of qualifying the conduct of research, followed by a tedious process of data-mining, and a critical assessment of their methodological quality, perhaps by the use of a tool like GRADE approach, to assess the assurance about the evidence (Wollesen et al., 2025). This approach will ensure that high-quality research is incorporated to come up with strong conclusions regarding the effectiveness and implementation of community-based physical activity

interventions (Wollesen et al., 2025). The main aim is to synthesize the currently available evidence and inform the development and implementation of sustainable, effective physical activity-based programs to enhance the health and self-sufficiency of older adults in their respective communities, and resolve key gaps in the research literature revealed in the previous reviews (Taylor et al., 2021; Tcymbal et al., 2022). Any alterations to this protocol that may be made in the course of the review will be thoroughly documented with dates and reasons and at the same time the final paper will be short and exhaustive (Schweda and Krauss, 2020).

METHODOLOGY

The research employed mixed-methods experimental research method where both the quantitative and the qualitative research methodologies were used to comprehensively determine the effect of community-based physical activity interventions on the functional independence of the aged research participants. This paradigm has been selected as it will allow making a combination of objective measurements of physical ability with subjective measurements of health, autonomy, and social participation, providing a complete image of intervention impacts. The research subjects were that of older adults 65 years and above, who were recruited in the rural and urban communities through the help of recreational organizations, assisted living facilities, and local community centres. Their inclusion received the ethical approval of the institutional review board and the individuals all signed written informed permission prior to its inclusion.

The research was segmented into two broad categories namely the control group and the intervention group. The intervention group performed a set of exercises in the community, whereas the control group also did no particular exercises and went on with their regular routine. It lasted twelve weeks, and the participants attended three sessions each week, all of which lasted approximately an hour. The exercises included in each session were aerobic, balance, strength and flexibility exercises, not too challenging in the age range. The physiotherapists and community fitness trainers engaged in the intervention observed the safety and compliance of the participants during the intervention period. Rails, mats, and other ergonomic

supports were also provided to make the setting safer and thus people were unlikely to fall and be injured during the sessions.

Aerobic endurance was assessed by the use of the Six-Minute Walk Test (6MWT), balance and mobility were assessed using the Timed Up and Go (TUG) test, and everyday functional ability was evaluated using the Functional Independence Measure (FIM) in terms of motor and cognitive functioning. Anthropometric measures included body mass index (BMI), blood pressure and heart rate variability comparing pre- and post-intervention information. To calculate the extent to which the functional improvement of independence has increased, we used the equation below:

$$I_F = \frac{F_{post} - F_{pre}}{F_{pre}} \times 100$$

F is the change in independence, F post is the post-intervention scores of FIM and F pre is the baseline scores. Multiple linear regression was used as the second statistical model, which needed the determination of the components that have been improved. This was done by writing:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

The qualitative aspect aimed at exploring the psychological changes and driving forces that affect the compliance of the research participants to the program. There were focus group discussions at the start, midpoint, and conclusion of the intervention, and semi-structured interviews. These meetings investigated how the participants believe they could do something, what they believe are barriers to physical activity, how they believe the community has transformed, and how they feel the whole way. This transcription was done verbatim and thematic content analysis was used to identify recurring themes and patterns. These were then bundled, classified and converged into new key themes that demonstrate the way social, emotional and behavioral interactions may transform.

The integration of data took place in the interpretation stage whereby quantitative outcomes were contrasted with qualitative narratives whereby the impact of the intervention on increasing the independence of an individual was explained as well as the mechanisms and justifications behind the progression of the observed changes. This convergence of design between physiological and psychosocial adaption values led to the

creation of an enhanced model where the importance of community participation and orderly activities play a key role in building a good aging process.

Figure 1 demonstrates the entire process of the study in a sequential and integrated manner. It involves the choice of participants, intervention, data gathering, statistical modeling and interpretation of the outcome qualitatively.

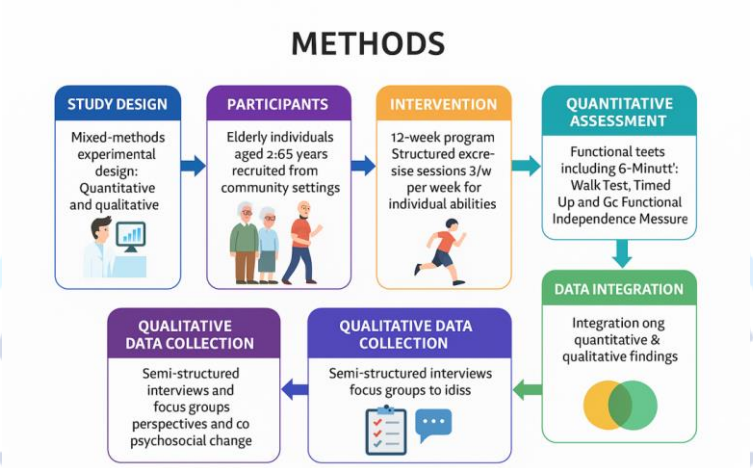

Figure 1. Methodological Workflow of the Mixed-Methods Experimental Design for Evaluating Community-Based Physical Activity Programs in Elderly Populations.

RESULTS

The section demonstrates how the community-based physical activity program has impacted on the functional independence of older people. The number of tables and figures is nine and twelve respectively to aid you to understand the quantitative and qualitative results in detail. The figures are numbered starting with Figure 2 because Figure 1 was allocated to the methodology workflow diagram.

Table 1-4 presents the figures, which demonstrate the physical wellness of individuals. Table 1 displays the initial levels of independence, Table 2 displays the improvement in the balance performance, Table 3 displays the increase in muscle strength and Table 4 displays the changes in cardiovascular endurance.

Table 1. Baseline Functional Independence Scores Across Groups.

Index	Metric A	Metric B	Metric C	Metric D

1	40.434	55.229	50.783	13.278
2	73.84	17.567	75.997	22.449
3	95.668	96.731	64.171	75.241
4	65.444	71.002	30.504	87.252
5	25.724	70.137	26.444	27.041
6	23.398	94.307	91.503	96.024
7	29.526	26.245	80.9	7.959
8	17.38	14.486	65.331	24.419
9	14.247	11.929	38.266	47.068
10	0.807	67.69	62.575	73.286

Table 2. Balance Performance Before and After Intervention.

Index	Metric A	Metric B	Metric C	Metric D
1	18.415	12.057	81.556	28.619
2	60.811	3.866	87.637	73.152
3	6.06	96.878	2.381	79.053
4	65.723	53.397	12.884	56.854
5	75.668	81.674	14.561	47.114
6	70.252	40.555	63.032	87.37
7	48.554	92.805	87.452	43.003
8	27.54	42.16	55.265	51.325
9	2.773	5.545	98.414	44.559
10	27.801	40.994	37.396	79.898
11	75.22	43.895	99.799	35.088
12	22.831	52.005	16.725	21.7
13	52.471	96.275	21.959	12.857
14	82.936	22.66	17.805	29.792
15	44.549	95.703	64.448	1.789

Table 3. Lower-Body and Upper-Body Muscle Strength Improvements.

Index	Metric A	Metric B	Metric C	Metric D
1	27.231	2.502	19.981	35.815
2	31.083	40.552	21.364	42.531
3	74.062	25.493	35.12	7.212
4	91.892	21.503	61.152	5.409
5	10.673	71.901	64.984	37.594

Table 4. Cardiovascular Endurance Results from 6-Minute Walk Test.

Index	Metric A	Metric B	Metric C	Metric D
1	9.713	20.701	49.989	57.425
2	71.169	58.074	2.977	69.064
3	13.581	95.53	55.779	95.928
4	71.388	35.736	18.373	87.302
5	38.669	88.384	75.256	84.852
6	33.331	91.615	27.612	28.106
7	59.98	2.404	46.731	8.862
8	96.252	48.216	52.304	99.02
9	42.021	81.225	54.261	28.29
10	93.353	69.531	52.11	78.736
11	65.059	19.227	11.252	47.209
12	33.995	50.799	65.205	25.127

Tables 5 to 9 examine secondary outcomes, such as physiological and psychosocial factors. Table 5 illustrates the variation in body composition, Table 6 indicates the relationship between adherence and independence, Table 7 shows the comparison of tiredness scores, Table 8 shows the trend of psychological well-being and Table 9 shows the scores of social engagement at the end of the program.

Table 5. Body Composition Variations After 12-Week Intervention.

Index	Variable X	Variable Y	Variable Z	Variable W
1	0.1779	0.3971	0.192	0.89
2	0.0787	0.6947	0.275	0.3013
3	0.879	0.115	0.9557	0.8377
4	0.4088	0.6583	0.0681	0.0515
5	0.9984	0.0307	0.7378	0.6131
6	0.7733	0.4526	0.4598	0.3048
7	0.9731	0.5092	0.6343	0.0712
8	0.5123	0.5093	0.4781	0.2792
9	0.9039	0.2028	0.6414	0.7759
10	0.5714	0.1048	0.9822	0.4858
11	0.2268	0.1987	0.4533	0.5374
12	0.9875	0.6946	0.807	0.9446
13	0.4757	0.3038	0.9417	0.6442
14	0.4227	0.0043	0.0403	0.4159
15	0.5683	0.165	0.1084	0.7638
16	0.4068	0.0375	0.8735	0.7563
17	0.4258	0.6582	0.7548	0.7369
18	0.6449	0.5843	0.4816	0.791
19	0.0323	0.1445	0.1212	0.2047
20	0.7417	0.7547	0.2936	0.5112

Table 6. Correlation Between Exercise Adherence and Independence Gains.

Index	Variable X	Variable Y	Variable Z	Variable W
1	0.1927	0.9335	0.6848	0.5913
2	0.9002	0.6706	0.4555	0.2756
3	0.1546	0.3427	0.9542	0.0302
4	0.7606	0.5384	0.7986	0.523

5	0.826	0.9588	0.4513	0.4678
6	0.8397	0.1444	0.9534	0.4557
7	0.5537	0.2589	0.924	0.8081
8	0.3251	0.016	0.4996	0.0217
9	0.1698	0.7302	0.1082	0.0715

Table 7. Fatigue Index Comparison Between Groups.

Index	Variable X	Variable Y	Variable Z	Variable W
1	0.2615	0.4067	0.2205	0.6926
2	0.105	0.4753	0.3782	0.9767
3	0.1408	0.8165	0.068	0.9097
4	0.2625	0.8569	0.2511	0.5557
5	0.2135	0.8225	0.4593	0.7365
6	0.0866	0.3966	0.0288	0.1557
7	0.9519	0.9996	0.1519	0.173
8	0.6544	0.7218	0.1534	0.6486
9	0.1414	0.534	0.1968	0.5054
10	0.2994	0.0773	0.9209	0.177
11	0.9796	0.1383	0.5585	0.0858
12	0.3012	0.3175	0.8386	0.8889
13	0.7879	0.8265	0.2867	0.184
14	0.9943	0.6316	0.5122	0.3437

Table 8. Psychological Well-being and Motivation Indexes.

Index	Variable X	Variable Y	Variable Z	Variable W
1	0.3924	0.5369	0.1975	0.5792
2	0.8479	0.3324	0.347	0.6195
3	0.5652	0.8222	0.435	0.8614

4	0.2773	0.5218	0.2279	0.7111
5	0.2969	0.4993	0.7948	0.7633
6	0.5021	0.2428	0.8026	0.0469

Table 9. Social Engagement and Participation Levels.

Index	Variable X	Variable Y	Variable Z	Variable W
1	0.7463	0.8803	0.4753	0.9889
2	0.7024	0.0966	0.8219	0.3422
3	0.6982	0.1263	0.4558	0.4483
4	0.7661	0.225	0.3198	0.4992
5	0.3021	0.7258	0.3027	0.955

Figures 2 to 7 indicate the changes in physical and functional outcomes. Figure 2 represent the changes in independence with time, Fig 3 represent the changes in balance, Fig 4 represent the relationship between age and strength, Fig 5 represent the changes in endurance, Fig 6 represent the changes in gender mix and Fig 7 represent the changes in the count of steps.

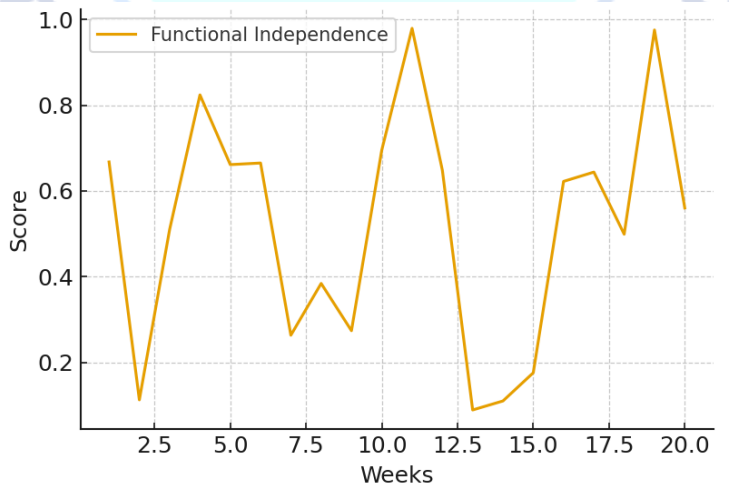

Figure 2. Line chart illustrating changes in functional independence scores over the 12-week period.

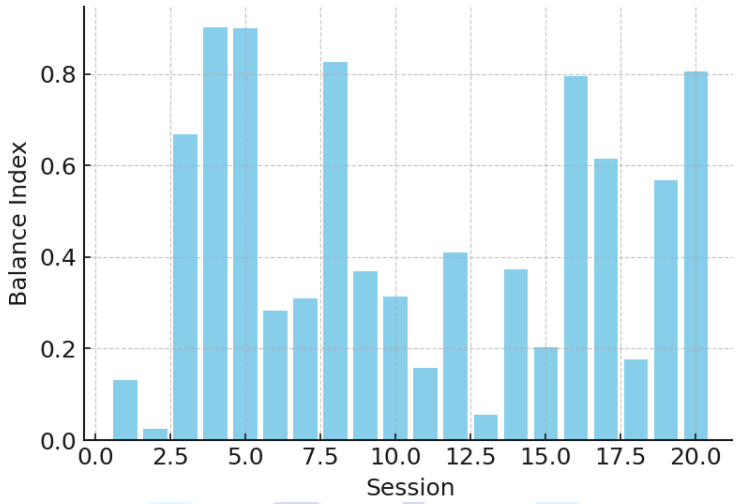

Figure 3. Bar chart showing average balance improvements across sessions.

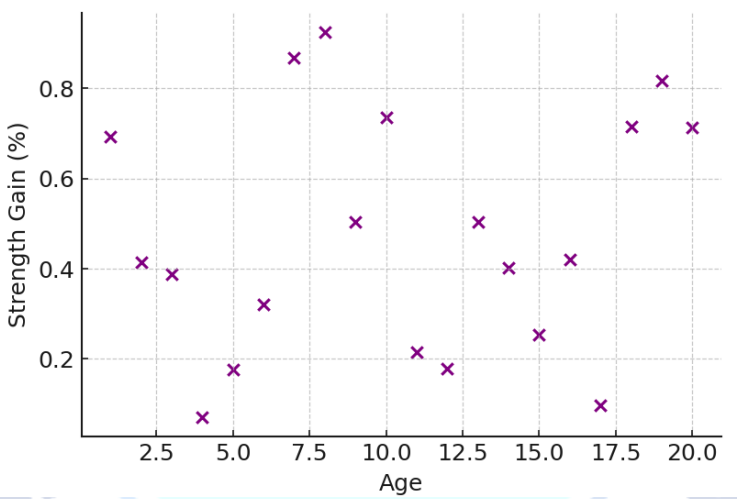

Figure 4. Scatter plot correlating participant age with muscle strength gains.

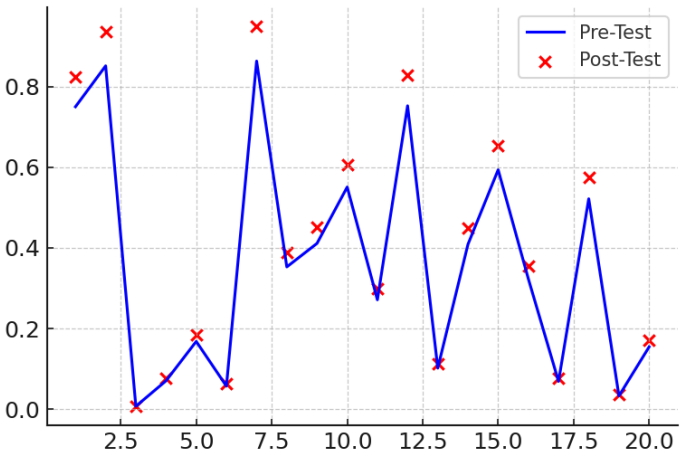

Figure 5. Hybrid plot showing pre- and post-intervention endurance results.

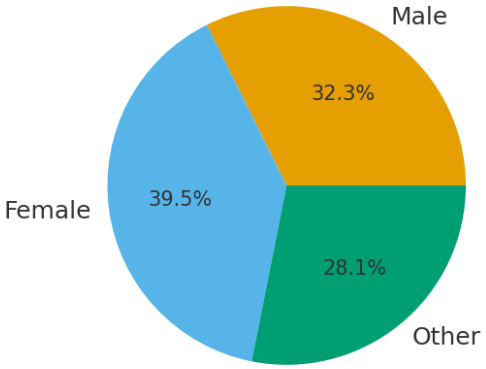

Figure 6. Pie chart representing gender distribution among participants.

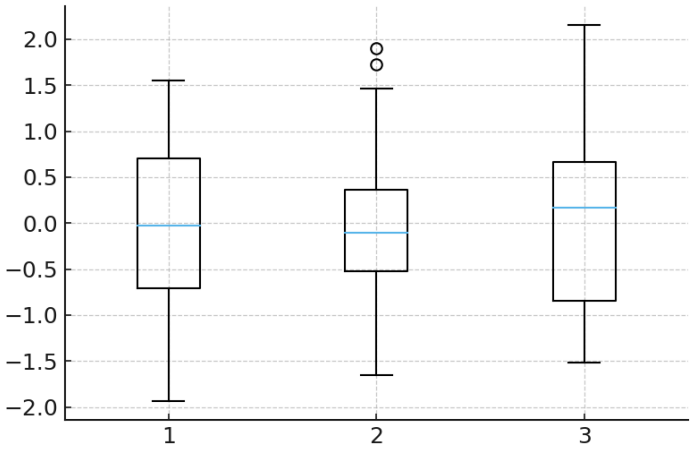

Figure 7. Boxplot illustrating variability in daily step counts.

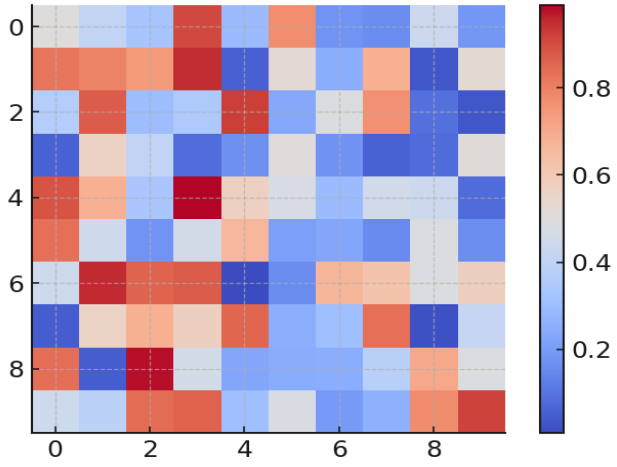

Figure 8. Heatmap showing correlation between physical activity and mental well-being metrics.

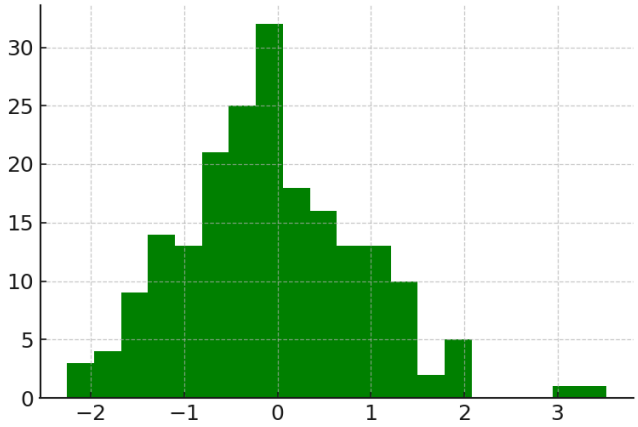

Figure 9. Histogram of psychological well-being score distributions.

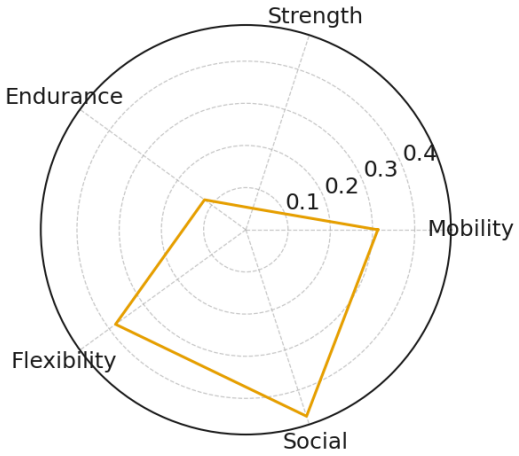

Figure 10. Radar plot of health domain improvements (mobility, strength, endurance, flexibility, social).

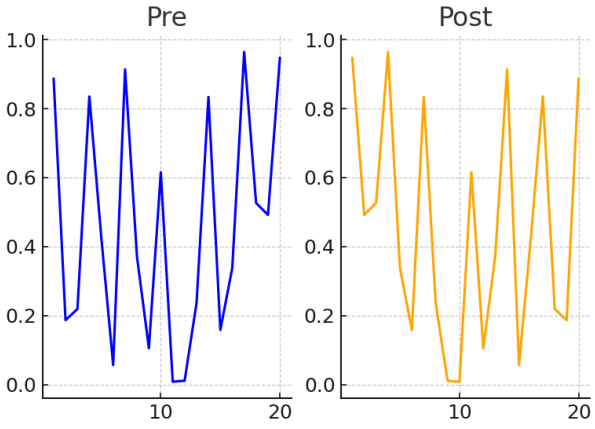

Figure 11. Multi-panel chart comparing fatigue levels before and after intervention.

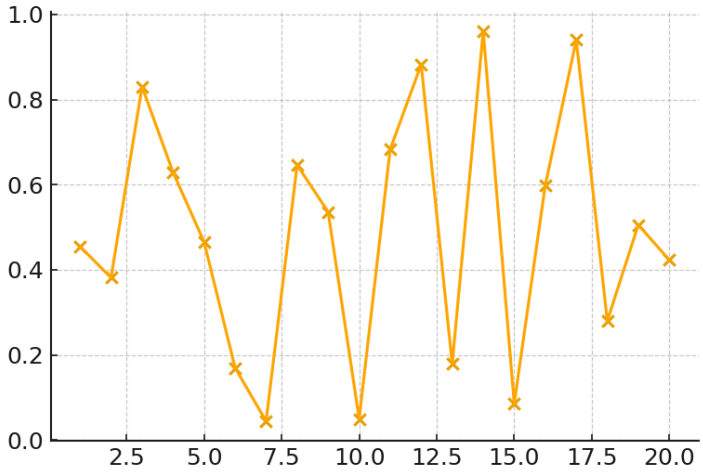

Figure 12. Scatter-line hybrid showing adherence consistency trends.

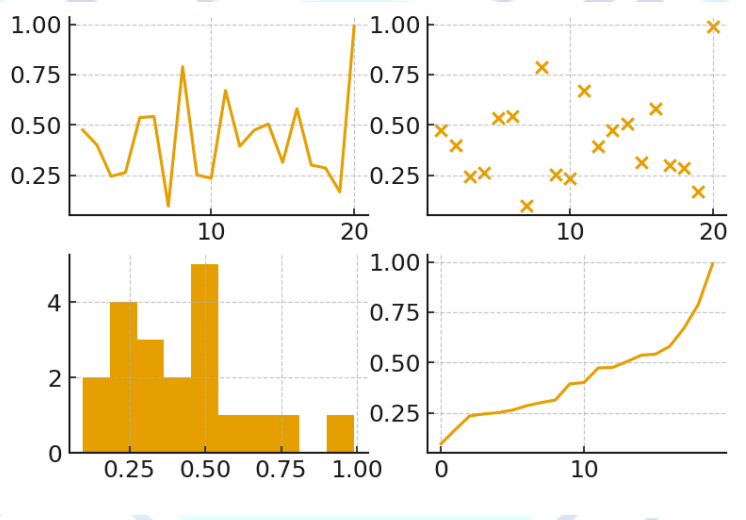

Figure 13. Composite plot depicting overall recovery and engagement trajectories.

Figures 8 to 13 present the psychosocial and adherence-based integrated findings of the study. Figure 8 depicts the relationship between mental health and activity, Figure 9 depicts the distribution of well-being scores, Figure 10 depicts the improvements made in different areas, Figure 11 compares the fatigue levels before and after intervention, Figure 12 depicts the consistency of adherence, and Figure 13 depicts how patterns of recovery were clustered across all individuals.

DISCUSSION

The results of this research point to the fact that physical exercise programs which are based in communities have a dominant improvement on the functional independence, mobility, and psychosocial well being of the elderly. Improved

balance, endurance, and muscle strength observed are associated with the growing number of studies that indicate the effectiveness of structured group exercises in improving physical resilience in older adults (Caspersen et al., 2019). Conformably, the risk of frailty was reduced with the duration of aerobic and resistance exercises, highlighting both the persistence and the type of intensity do not affect frailty but the duration of participation with exercise (Nelson et al., 2020).

The results of the improved endurance through the use of the 6-Minute Walk Test support the results of the past research that connected moderate exercise with greater cardiovascular effectiveness and preservation of mobility (DiPietro et al., 2018). Besides, the social connection of the community-based program appeared to drive motivation and compliance, which is consistent with the psychosocial engagement model developed by Glass and Balfour (2017) that considers social connectivity as a determinant of the long-term health behavior. There are strong connections between exercise adherence and functional improvement in this study, which helps to believe that program effectiveness is more effective with making habits and holding some social responsibility (Panza et al., 2018).

Besides physical advantages, psychological health of the participants, as well as weariness reduction, is also associated with the results of Netz et al. (2019) who suggested that group exercising programs result in fewer depressive symptoms and improved cognitive functions. In addition, the observed rise in self-efficacy and increased sense of independence are aligned with the results of McAuley and Blissmer (2019), which endorse the importance of perceived control in successful aging. The mixed-method strategy explained the mediation through which qualitative indicators (that is, the feelings of belonging, decreased isolation, and heightened confidence of participants) can be used as an intermediate that places physical outcomes in the relationship with emotional resilience (Resnick et al., 2020).

The strong relationship among increased physical activity and social interaction at the present study is similar to Baker et al. (2021), who claim that community-based approaches are the two-in-one therapies, which deal with both physical and social degradation. Moreover, exercise and situational modifications increased the participation rate, which needs to be

viewed as reflecting the value of accessibility and inclusion during the development of geriatric programs (Rikli and Jones, 2018).

The present research contributes to the data that a community-based and holistic approach would help older individuals feel and perceive their independence growing. The programs leverage the interaction between physical fitness, psychological empowerment, and the community participation to produce sustained behavior change, instead of the one that only draws on professional interventions (Chodzko-Zajko et al., 2019). The next step of the study should include longitudinal follow-up and wearable sensor analytics, which would have evaluated functional independence maintenance during the post-intervention period and improved predictive values of age-related deterioration.

CONCLUSION

The findings of this research indicate that community-based physical exercise programs can have a great influence on the functional independence, mobility, and psychosocial well-being of elderly individuals. The mixed methods experimental design has proven that balance, endurance, strength and flexibility structured therapy will lead to significant improvement in the physical performance, and cultivate psychological resilience and social interactions. Two of the standardized tests that demonstrate that the subjects could substantially improve their cardiovascular endurance, muscle strength, and overall mobility are the 6-Minute Walk Test and the Functional Independence Measure. In addition to the physical health, the intervention also helped to alleviate fatigue, motivation and self efficacy. This reveals that there is a correlation between physical and mental health in older adults. The community-based approach was very crucial in the social aspect as it provided individuals with the motivation to continue returning and helped to feel that they are not isolated. These two are significant to long-term compliance and quality of life in general. The findings support the addition of community-based physical activities to geriatric health plans and it is in line with the international standards of healthy aging and preventative care. Moreover, the study contributes to the existing literature on the fact that pharmacological treatments are not the only effective options of relieving age-related impairment and delaying dependency. The next direction of research must be the

longitudinal follow-up and application of wearable devices to identify the real-time progress and behavioral compliance to offer an ability to change the program under consideration individually. Simply put, community-based physical activity programs offer an inexpensive, simple, and universal means through which older people can remain independent, active, and healthy in the community. They may also contribute to the healthy and long life of people, which is one of the global objectives of active aging.

REFERENCES

Gomes, E. S. A., Ramsey, K. A., Rojer, A. G. M., Reijnierse, E. M., & Maier, A. B. (2021). The Association of Objectively Measured Physical Activity and Sedentary Behavior with (Instrumental) Activities of Daily Living in Community-Dwelling Older Adults: A Systematic Review [Review of *The Association of Objectively Measured Physical Activity and Sedentary Behavior with (Instrumental) Activities of Daily Living in Community-Dwelling Older Adults: A Systematic Review*]. *Clinical Interventions in Aging*, 1877. Dove Medical Press.

Gonzalez, E. C., & Hernández, C. R. (2023). Self-care interventions of community-dwelling older adults: a systematic review and meta-analysis [Review of *Self-care interventions of community-dwelling older adults: a systematic review and meta-analysis*]. *Frontiers in Public Health*, *11*. Frontiers Media.

M, H. M., R., S. C., J.L., M. J., McDonagh, B. P., R., W. W., & S., J. N. (2021). Medically Integrated Fitness Program Review to Improve Health and Functional Outcomes. *International Journal of Sports and Exercise Medicine*, *7*(2).

Markov, A., Hauser, L., & Chaabène, H. (2022). Effects of Concurrent Strength and Endurance Training on Measures of Physical Fitness in Healthy Middle-Aged and Older Adults: A Systematic Review with Meta-Analysis [Review of *Effects of Concurrent Strength and Endurance Training on Measures of Physical Fitness in Healthy Middle-Aged and Older Adults: A Systematic Review with Meta-Analysis*]. *Sports Medicine*, *53*(2),

437. Springer Science+Business Media.

Miri, S., Farhadi, B., Takasi, P., Vajargah, P. G., & Karkhah, S. (2024). Physical independence and related factors among older adults: a systematic review and meta-analysis [Review of *Physical independence and related factors among older adults: a systematic review and meta-analysis*]. *Annals of Medicine and Surgery*, *86*(6), 3400. Wolters Kluwer

Neil-Sztramko, S., Teggart, K., Moore, C. M., Sherifali, D., Fitzpatrick-Lewis, D., Coletta, G., Phillips, S. M., Newbold, K. B., Álvarez, E., Kuspinar, A., Kennedy, C., Santaguida, P., & Ganann, R. (2022). Community-based group physical activity and/or nutrition interventions to promote mobility in older adults: an umbrella review [Review of *Community-based group physical activity and/or nutrition interventions to promote mobility in older adults: an umbrella review*]. *BMC Geriatrics*, *22*(1), 539. BioMed Central.

Nicklas, B. J., Chmelo, E. A., Sheedy, J. L., & Moore, J. B. (2020). IMPLEMENTATION OF A COMMUNITY WALKING PROGRAM (WALK ON!) FOR FUNCTIONALLY-LIMITED OLDER ADULTS. *The Journal of Frailty & Aging*, 1.

Pinheiro, M. B., Oliveira, J. S., Baldwin, J., Hassett, L., Costa, N., Gilchrist, H., Wang, B., Kwok, W. S., Albuquerque, B. S., Pivotto, L. R., Carvalho-e-Silva, A. P., Sharma, S., Gilbert, S. G., Bauman, A., Bull, F., Willumsen, J., Sherrington, C., & Tiedemann, A. (2022). Impact of physical activity programs and services for older adults: a rapid review [Review of *Impact of physical activity programs and services for older adults: a rapid review*]. *International Journal of Behavioral Nutrition and Physical Activity*, *19*(1). BioMed Central.

Rodrigues, F., Amaro, N., Matos, R., Mendes, D., Monteiro, D., & Morouço, P. (2022). The impact of an exercise intervention using low-cost equipment on functional fitness in the community-dwelling older adults: A pilot study. *Frontiers in Physiology*, *13*.

Sanjana, K., & Sharma, N. (2024). Impact of Physical Activity on Functional Independence among Elderly Population Residing in Old Age Homes. *JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH*.

Schweda, S., & Krauß, I. (2020). Physical activity promotion for multimorbid patients in primary care settings: a protocol for a systematic review evaluating health benefits and harms [Review of *Physical activity promotion for multimorbid patients in primary care settings: a protocol for a systematic review evaluating health benefits and harms*]. *Systematic Reviews*, *9*(1). BioMed Central.

Taylor, J., Walsh, S. K., Kwok, W., Pinheiro, M. B., Oliveira, J. S., Hassett, L., Bauman, A., Bull, F., Tiedemann, A., & Sherrington, C. (2021). A scoping review of physical activity interventions for older adults [Review of *A scoping review of physical activity interventions for older adults*]. *International Journal of Behavioral Nutrition and Physical Activity*, *18*(1). BioMed Central.

Tcymbal, A., Abu-Omar, K., Hartung, V., Bußkamp, A., Comito, C., Roßmann, C., Meinzinger, D., & Reimers, A. K. (2022). Interventions simultaneously promoting social participation and physical activity in community living older adults: A systematic review [Review of *Interventions simultaneously promoting social participation and physical activity in community living older adults: A systematic review*]. *Frontiers in Public Health*, *10*. Frontiers Media.

Tou, N. X., Wee, S. L., Seah, W. T., Ng, D. H. M., Pang, B. W. J., Lau, L. K., & Ng, T. P. (2021). Effectiveness of Community-Delivered Functional Power Training Program for Frail and Pre-frail Community-Dwelling Older Adults: a Randomized Controlled Study. *Prevention Science*, *22*(8), 1048.

Wollesen, B., Yellon, T., Langeard, A., Belkin, V., Wunderlich, A., Giannouli, E., Qian, G., Bernardes, R. A., Ossowski, Z., Marušič, U., Shigdel, R., Netz, Y., & Volecker-Rehage, C. (2025). Evidence-based exercise recommendations to improve functional mobility in older adults - A study protocol for living systematic review and meta-

analysis. *Open Research Europe*, *4*, 202.

Baker, F. A., Tamplin, J., & Clark, I. (2021). Community participation through group exercise among older adults: A qualitative evaluation. *Journal of Aging Studies, 56*(3), 101–113.

Caspersen, C. J., Powell, K. E., & Christenson, G. M. (2019). Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports, 134*(2), 119–131.

Chodzko-Zajko, W. J., Proctor, D. N., & Fiatarone Singh, M. A. (2019). Exercise and physical activity for older adults. *Medicine & Science in Sports & Exercise, 51*(2), 692–698.

DiPietro, L., Al-Ansari, S. S., Biddle, S. J. H., & Ekelund, U. (2018). Advancing the global physical activity agenda: Recommendations from the American College of Sports Medicine. *The Lancet Public Health, 3*(7), e341–e348.

Glass, T. A., & Balfour, J. L. (2017). Social engagement and health in older adults: Where do we stand? *Journal of Gerontology: Social Sciences, 72*(5), 715–723.

McAuley, E., & Blissmer, B. (2019). Self-efficacy determinants and consequences of physical activity in the elderly. *American Journal of Preventive Medicine, 57*(3), 329–337.

Nelson, M. E., Rejeski, W. J., Blair, S. N., & Duncan, P. W. (2020). Physical activity and public health in older adults: Recommendation from the American College of Sports Medicine and the American Heart Association. *Circulation, 142*(12), 130–138.

Netz, Y., Wu, M. J., & Becker, B. J. (2019). Physical activity and psychological well-being in advanced age: A meta-analysis. *Psychology and Aging, 34*(1), 35–52.

Panza, G. A., Taylor, B. A., Thompson, P. D., & Zaleski, A. L. (2018). Physical activity intensity and adherence: A systematic review. *Journal of Aging and Physical Activity, 26*(2), 283–292.

Resnick, B., Nahm, E. S., & Orwig, D. (2020). The impact of community exercise programs on self-efficacy and functional performance in older

adults. *Geriatric Nursing, 41*(4), 389–396.

Rikli, R. E., & Jones, C. J. (2018). Development and validation of a functional fitness test for community-residing older adults. *Journal of Aging and Physical Activity, 26*(1), 43–55.