

Effect of Morning Workout (MWO) On Anthropometric among Urban Older Adults

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ABSTRACT

Introduction: Health and wellness of older adults were essential in due with ageing process occurred and injuries cause mortality increased rate every single year. **Objectives:** To investigate the consistency and persistency of Morning Work Out (MWO) by urban older adults towards their health and wellness descriptively. **Methodology:** Cross sectional design with respondents attended MWO for a long year whereby managed to figure out overall respondents' anthropometry (psycho-motor, psychological and physiological). Self-recorded without diet control. Maximum training heart rate was 70%. concerned. **Samples:** 13 aged 50's and 65's voluntarily involved and observed from 2024 to 2025. Parameters attempted: Anthropometric: Blood Pressure (BP), Body Weight, SpO2, Sleeping Pattern, Awaken Rate, Body temperature, and Core Strength (Lean Squad, Plank and Bridge) were performed by all respondents. **Results:** After 12 months of MWO, the overall weight was back to 79.2Kg from 78.8Kg. However, the MWO showed that Walks came about 71% by respondents; Heart Rate range of 71bpm to 90bpm after MWO was 75%; Stretching daily about 68% performed routinely; Mode of very good mood about 63.5%, Good mood about 31% and So-So mode about 3%. Hence, Lean squad about 54% and Plank making 51.2% and Bridging was about 52% performed by all throughout year. These outcomes showed respondents' sleeping pattern resulted at deep sleep rate 20.7% and with the average of mean score 27% deep sleep which equals to 7.2% overall and this was from the range of sleeping hours 6 hours 31 minutes to 5 hours and 31 minutes which was out of expectation. Moreover, awaken times showed 42% was non awakened throughout the sleeping hours. BP showed Excellence Level about 21%, Normal Level was 59%, Normal Systolic (34%) and High Blood Pressure grade one only 0.62% respectively. Body temperature was in the average

range of 36 Celsius to 36.9 Celsius with 79% and lastly the SpO2 reading around 98 with 68% along year time. **Conclusion** Consistency and persistency of all older adults in performing this MWO for duration of 12 months would gain effect as expected apparently. Adversely, feeling easy and happy all the time. House work became fast and clear with very fresh and happy feel. Walk faster and much faster without heavy feelings. **Contribution:** Practices and maintenance one's health and wellness status in applied psychological, anatomy and physiological perspectives. **Recommendation:** MWO programme as older adults' choice of practice as far as Health and Wellness, the body of knowledge concerned.

Key Words: Stretching, Core Strength, Health and Wellness, Anthropometric, Urban Older Adults.

INTRODUCTION

Older adults with the process of aging, which traditional defined age 65 often used as a marker for this group, though individuals can be considered "old" at different ages depending on the context and yet many older adults still maintain their good health at their present age. The ages of 55, 62, and 65 were additional milestone years that mark the onset of senior citizenship [11]. However, by these ages, they were more susceptible to certain health conditions, and some gerontologists define subgroups within the older population to be better represent the diversity of experiences and health states. This demographic faces challenges like age-related health conditions, social isolation, and abuse, but also shows resilience and the ability to remain active and engaged.

As far as health and wellness of this older adults concerned, the United Nations (UN) General Assembly declared that from 2021 - 2030 as the UN Decade of Healthy Ageing and its asked World Health Organization [11,13] to lead the implementation as common practices in wellbeing healthy. It was having a global collaboration bringing together governments, civil society, international agencies, professionals, academia, the media and the private sectors for 10 years of concerted, catalytic and collaborative actions to foster longer and healthier lives for these aging groups

The UN Decade of Healthy Ageing (2021–2030) seek to reduce health inequities and improve the lives of older people, their families and communities through collective actions in four main areas: Changing how lay man think, Feel and act towards age and ageism; Developing communities in ways that foster the abilities of older; Delivering person-centred integrated care and primary health services responsive to older; and providing older people who needed it with access to quality long-term care.

This study was penetrating the perspective of delivering person-centred integrated care and primary health abilities of the urban older adults from all walks of live which focuses on the effect of MWO on anthropometric among urban older adults.

Health and Wellness among Urban Older Adults

Older adults were more likely to experience health issues such as hearing loss, cataracts, arthritis, and chronic conditions like Chronic Obstructive Pulmonary Disease (COPD) and diabetes. They tend to experience multiple conditions at once. Complex health states that were consequences of multiple factors, including frailty, falls, and urinary incontinence was also common. Mental health was a significant concerned, with challenges including depression, anxiety, social isolation, and loneliness [1].

Maintaining a healthy weight, not smoking, managing stress, and getting enough sleep were crucial for staying healthy as long as age was crucial and it was hardly practice by specifically urban lifestyle concerned.

Evidences suggested that the proportion of life in good health had remained broadly constant, implying that the additional years were in poor health. If people could experience these extra years of life in good health and if they live in a supportive environment, their ability to do the things they valued will be little different from that of a younger person. If these added years were dominated by declining in physical and mental capacity, the implications for older people and for society were considered negative.

By 2030, 1 in 6 people in the world will be aged 60 years or over. At this time the share of the population aged 60 years and over will increase from 1 billion in 2020 to 1.4 billion. By 2050, the world's population of people aged 60 years and older will double (2.1 billion). The number of persons aged 80 years or older was expected to triple between 2020 and 2050 to reach 426 million [1,13].

Physical and social environments could affect urban older adults' health directly or through barriers or incentives that affect opportunities, decisions and health behaviour. Maintaining healthy behaviours throughout life, particularly eating a balanced diet, engaging in regular physical activity and refraining from tobacco use, all contributed to reducing the risk of non-communicable diseases (NCD), improving physical and mental capacity and delaying care dependency.

METHOD USED

It was a longitudinal study with descriptive design which was undertaken by means of observation, log book recorded and soft interview methods used [5,7,8]. Describes the independent and dependent variable that happened as the way things were [4]. In terms of scientific research, it had two research objectives to be examined as stated what were differences and changes of older adults' health profiling between the duration of 4 to 5 years to figure out one constructed profile among urban older adults aged 50' to 60's from 2024 to 2025. Non-experimental in nature, research utilized two set up physical activities' programmes name as "Stretching Activities" and "Core Strength Activities" in order to collect data such as: Oxygen Saturation in SpO₂, Sleeping Rate, and Awaken frequencies, Anthropometric: Blood Pressure (BP), Body Weight, Pulse Rate, Upper Extremities Core Muscles, Lower Extremities Core Muscles, and daily routine as far as systematic applied research concerned [9,13].

Sampling

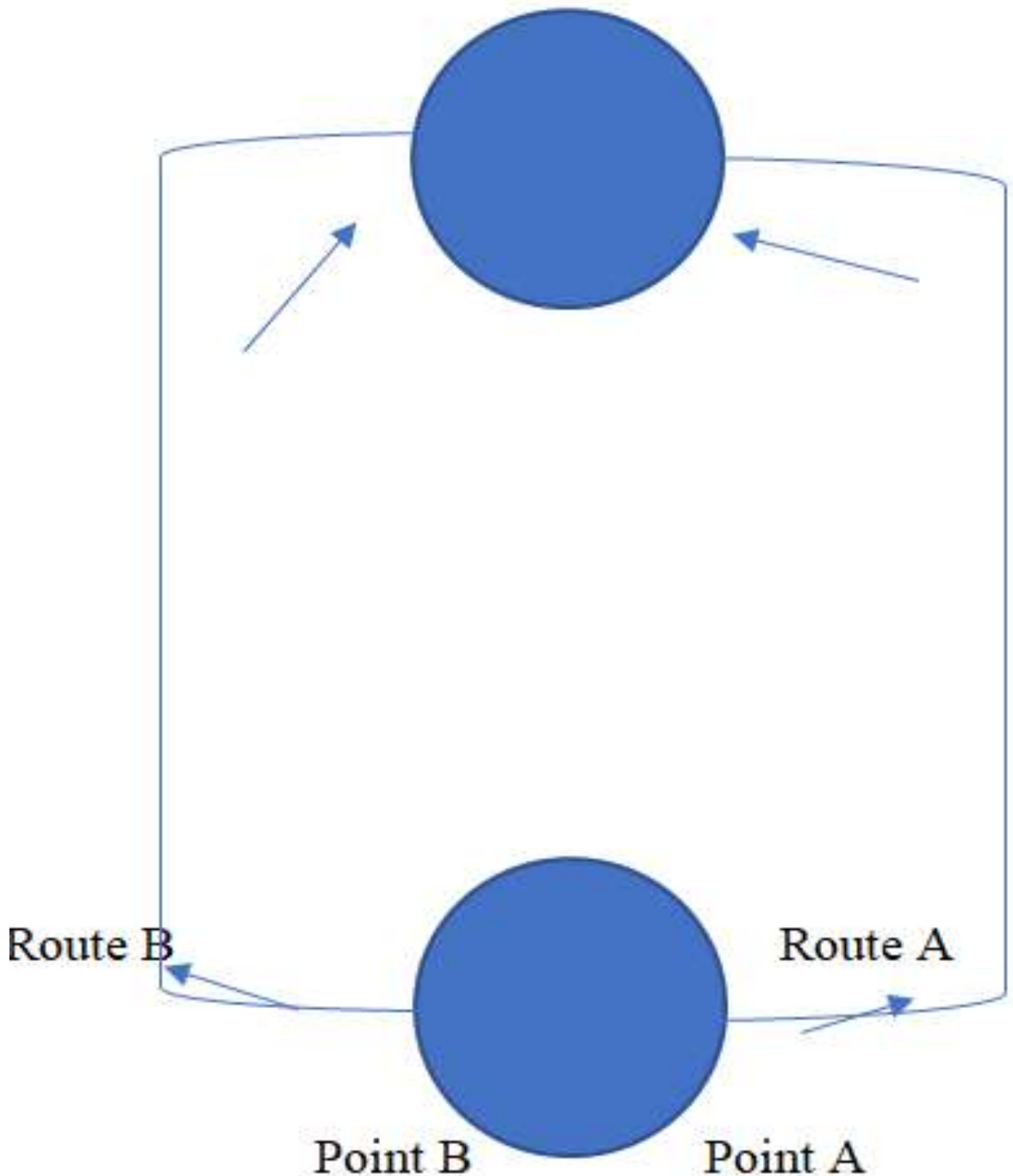
Participants of this study were urban older adults from urban area's morning walkers in Taman Riadah Selangor whom age 50's to 60's years old and they came from all walks of life. 13 participants sustained from year 2018 to 2025 instead of total 20 participants in the year of 2018, so the dropped out 7 out of 20 was equal to 35% dropped rate. However, remained 65% of these enthusiastic and volunteer urban older adults to be updated in this report concerned.

Type of Programmes / Intervention Conducted in the Study

Morning Work Out (MWO) – the flow of it:

Warm – Up [3]- Walks – 30" to 60" Per session

Venue: Route of Taman Riadah / Recreational Park – Morning Work Out – Urban Older Adults



One round or either with Route A or Route B was equal distances. It was about 720 footsteps to 740 footsteps:

One footstep = 90cm so 720 steps X 90cm = 648m (0.648Km) and/or 740 steps X 90cm = 666m (0,666Km).

Usual Practice was 3 rounds to 5 rounds (Total around 40 minutes to an hour)

3 Rounds of Walks = 1.9Km to 2Km

5 Rounds of Walks = 3.24Km to 3.33Km

Speed of Walks - Distance divide by time So, = 6 Km/h

Followed by Stretching Activities [2] and Core Strength Activities and it came to total about one and half hours and / or two hours per session – every day without fail.

EMPIRICAL RESULTS

After 12 months’ time from the 29th of Dec 2024 to Dec ,2025 of daily MWO programme than those parts would be tested and measured again to see the effectiveness of the MWO programme.

Thus, at this moment, the Effect of MWO already make the participant’s easily climb up staircases and even they could walk faster and longer distance for instance compare with time before they practiced the MWO and results showed and tables below descriptively.

Table 1: Overall Weight Flow of the Year 2024 - 2025 (n=13)

Weight Fr	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Mean
Up 1	30	41	65	38	34	40	27	37	38	37	41	38.90909
Down 2	28	35	71	55	46	46	30	50	37	57	44	45.36364
Stay 3	42	18	48	9	20	13	10	6	15	6	15	18.36364

Throughout the year showed that the respondents’ weight was overall decreased in percentage rather than increased with the final result of 45.37% decreased in a year and 38.9% increased their body weight from time to time. Moreover, there was a stay put with their flow of weight at 18% out of 12 months’ time. This means that respondents intended to go on with the MWO programme by researchers because there was positive result and others parameters were seriously needed to consider as far as anthropometric survey concerned.

Table 2: Results of Walks in Percentage and the Related Heart Rate Level among Respondents (n=13)

Steps 9000													
Yes 1%	81	93	77	68	63	67	68	74	70	61	63	71.36364	
No 2%	19	7	23	32	37	33	32	26	30	39	37	28.63636	

HR %													
60-70	17	17	26	13	10	7	4	3	13	6	9	11.36364	
71-80	37	32	25	33	43	37	32	43	42	29	33	35.09091	
81-90	43	34	33	40	31	48	47	40	34	54	43	40.63636	
91-100	14	16	17	1	16	8	13	13	8	15	17	12.54545	
101-110	0	0	0	0	0	0	3	1	3	0.8	3	0.981818	

Overall, there was 71% of respondents managed to make the walks as their MWO which was about 9000 steps per session. Respondents' heart rate was in the range of 70-80bpm (35.09%) and 80bpm to 90bpm was exactly about 40.63% throughout the day after this programme consistently gained by them and all respondents were happy and satisfied about their heart rate level concerned. Respondents' intended to go on this programme by themselves [9].

Table 3: Result of Morning Workout (MWO) with the 5 Planned Parameters and Related Mood Mode among Respondents (n=13)

Stretch %													
Yes 1	65	86	68	50	60	73	68	74	60	61	83	68	
No 2	35	14	32	50	40	37	32	26	40	39	17	32	
MWO													
Yes 1	58	86	68	50	57	70	68	62	50	42	63	61.27273	
No 2	32	14	32	50	43	30	32	38	50	58	37	37.81818	
Mood L %													
V Good 9-	0	29	48	50	66	80	94	84	93	58	97	63.54545	
Good 7-8	100	71	45	37	27	10	6	16	7	26	3	31.63636	
So So 5-6	0	0	7	10	7	10	0	0	0	0	0	3.090909	
Not G 3-4	0	0	0	3	0	0	0	0	0	0	0	0.272727	
Bad 1-2	0	0	0	0	0	0	0	0	0	5	0	0.454545	
Squad %													
Yes 1	54	70	58	63	37	67	61	68	40	29	47	54	
No 2 %	46	30	42	37	63	33	39	32	60	71	53	46	
Plank %													
Yes 1	54	78	58	43	37	67	61	58	37	29	47	51.72727	
No 2	46	22	42	57	63	33	39	42	63	71	53	48.27273	
Bridge %													
Yes 1	54	78	58	43	37	67	61	58	37	32	47	52	
No 2	46	22	42	57	63	33	39	42	63	68	53	48	
Walks %													
Yes 1	64	82	61	53	63	67	71	71	53	42	47	61.27273	
No 2	36	18	39	47	37	33	29	29	47	58	53	38.72727	

Walks among respondents was 61% consistently with 9000 steps approximately with this MWO programme. However, these Squad or lean the wall squad was managed to get 54% performed; Bridging was 52%; Stretching self about 68% and Plank was about 51.7% throughout a year [2]. These results were most properly as the parameters that contributed to one's mood level's factors among all respondents because data descriptively showed that respondents were feel very good mood mode about 63% throughout the year time and in good mood mode about 31.7%. However, feeling of so - so mode and not good mode as well as bad mood mode were definitely decreased or vice versa results.

Table 4: Sleeping Rate, Quality and Awaken Rate among Respondents in the Year (n=13)

Sleep Rate %												
4'-4'30"	0	0	10	8	7	17	13	3	0	15	3	↓ 6.9091
4'31"-5'	8	11	17	15	4	8	0	0	11	0	3	↓ 7
5'01"-5'30'	13	26	28	23	22	52	3	10	16	36	3	↑ 21.091
5'30"-6'	17	11	28	19	22	12	11	17	37	36	27	↑ 21.545
6'01"-6'30"	33	19	28	15	26	48	13	39	21	11	20	↑ 20.99
6'31"-7'	17	11	10	42	11	8	30	23	37	4	30	↑ 20.273
7'01"- 7'30"	13	15	3	12	7	0	23	10	69	0	13	→ 15
7'31"-8'	0	7	3	0	0	0	7	0	11	0	3	↓ 2.8182
Sleeping Q												
Deep	0	0	0	28	26	26	26	27	26	34	35	→ 20.727
Light	0	0	0	72	74	74	74	73	74	66	65	↑ 52
Mode	0	0	0	32	26	30	30	30	33	34	22	→ 21.545
Mean	0	0	0	0	0	0	0	0	26	27	27	↓ 7.2727
Median	0	0	0	0	0	0	0	0	0	28	26	↓ 4.9091
Awaken %												
3X	4	4	0	0	3	0	3	0	3	0	7	↓ 2.1818
2X	17	18	7	12	7	0	13	19	7	18	27	↓ 13.182
1X	42	39	33	36	45	48	43	48	53	39	30	↑ 41.455
0X	38	39	60	52	45	52	40	32	33	43	37	↑ 42.818

Percentage counted of longer sleeping hours among respondents seem to be decreased from the range of 6'32'' to 6'30'' to the range of 5'30'' to 5'00'' as shown 20.27% to 21.09% respectively among this group of older adults. Deep sleep percentage was 20.77% instead of light sleep was 52% and this means that respondents were mostly in light sleep mode all the time with overall mean score of 27% out of 100% in the deep sleep mode monthly recorded. This result showed that there may needed to consider others factors like work load, diet pattern, or even environmental as well (suggested for future study).

Table 5: Heart Rate, Body Temperature and SpO2 Readings among Respondents (n=13)

BP Status %												
Excel 6	19	17	26	20	34	22	31	19	22	4	18	→ 21.091
Normal 5	75	81	59	60	55	36	57	59	53	52	62	↑ 59
Normal Sy	5	12	16	16	11	33	10	21	17	46	21	↓ 18.909
Grade 13	0	0	0	2	0	2	0.8	0.1	0	2	0	↓ 0.6273
Body Temp Rate%												
35.5-35.9	7	5	11	15	10	19	10	10	2	11	10	10
36-36.4	44	54	43	43	52	43	38	50	50	42	39	45.27273
36.5- 36.9	27	35	34	35	21	26	46	30	37	45	41	34.27273
37-37.4	23	7	13	11	17	13	6	10	11	2	10	11.18182
SpO2%												
99	9	14	19	32	24	12	20	7	9	9	9	↓ 14.909
98	84	83	36	57	60	69	67	86	78	64	74	↑ 68.909
97	7	2	2	11	16	18	13	7	9	26	24	↓ 12.273
96	0	0	0	0	0	0	0	0	2	0	2	↓ 0.3636

Blood Pressure (BP) was at excellence level (120/80) with overall 21.09% followed by Normal BP level (<130/85) of 59% Normal Systolic Level (<140/90) with 18.9% and High Blood Pressure Grade One was 0.67% throughout the year recorded.

Body temperature showed average of 36 Celsius to 36.9 degree which means in the normal stage and no fever considered in the year time. Moreover, SpO2 showed average readings of 98 and 97 as means that respondents were in this stage with 80% all the time of their SpO2 level for these older adults (50 to 65 years old)[9].

RESULTS OF QUALITATIVE (VERBAL INTERVIEW/SLOW TALK)

Respondents felt good and also managed to sleep well. They could release anytime and any spots. Respondents feel relax and they could in take food as they like and as they could.

BP was 119/79 and heart beat about 85bpm. Stress level mild and sleep hours about 6 hours and deep sleep about 2 hours 34 minutes and the rest was light sleep pattern.

Every single own life was under control and getting very well and felt great throughout day long. House works were under control as well and felt peaceful in mind.

Knee pain getting lesser but some time still might feel it. Stomach uneasy feelings getting totally great or lesser because no longer feel uneasy by walking distance. Body feels lighter yet some time did not because sometime food intake did not control and the body mean weight was back to 79.2Kg instead of targeting 76Kg as ideal body. There were more serious and desire to get less food intake daily for coming days [4].

Walking plus Core Strength activities about 2 hours 21 minutes and 8 seconds Results (n = 13)

Parameters Measured	Record (Readings) / Notes
Burn	551 Kcl
HR	93 bpm – Average
Max	116 bpm
Min	67 bpm
Category	Light 57 minutes 4 seconds & Intensive 25 seconds
Stress level	At 9:19 am = 36 Mild, 31 Mild at 1:21 pm
SpO ₂ Reading	98 (Good)
Calories burn	1093 kcal (Target = 1230 kcal)
Steps	5327 (Target = 9000)

Moving	87 minutes
Sleeping record	6 hours 10 minutes
Deep / Light Sleep	Deep 34% and Light 66%
Wake ups	2 times (Target = 0)

Achievement toward Target

Average Sleeping Pattern in a week - 6 hours 3mins (target =8 hours).

BP was 115/76 (Good) and heart beat = 98bpm (target 80bpm)

Body weight = 79.2Kg (target 76Kg)

CONCLUSION

These MWO activities were making sense and the its' outcome could build up those CORE muscles for older adults considered and concerned. Thus, consistency and persistency of all older adults in performing all stretching and core strength practices as planned of this MWO for duration of 12 months would gain effect on respondents' core muscles and others parameters [6]. MWO would be the alternative or even as the main Physical Activities' Programme for elderly for instance to delay early aging process taken part [5,7,8] for this group aged as well as it contributed to the health and wellness, the body of knowledge.

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