

## POST “Cyclic & “APecR” PROGRAM ON SELF - HEALTH PROFILING AMONG ELDER ADULTS – EXTENSION PERSPECTIVE

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### ABSTRACT

*Self – health profiling was definitely essential among elder adults after a long battle with COVID19 and this study aimed at investigating the effectiveness of the “Cyclic” and “APecR” programmes in order to figure out the impact on psychomotor, psychological and physiological aspects of one’s health concerned. Indoor self-record and outdoor slow jog with descriptive outcomes of “Cyclic” & “APecR” as profiling tool. Thirteen (13) participants with aged 50’s voluntarily involved with all records and results were justified by external 2 observers as far as reliability and validity results were concerned from year 2018 to 2021. Food intake recorded, Distance, Blood Pressure (BP) Rate, Body Weight, Diabetic Record, Cholesterol Level, High Density Lipid (HDL) and Uric Acid content as well as Steps perform daily with self - log books and medical reports. Weight Loss showed mild changes, BP readings enhanced Excel readings = 120/80 – 39% to 58%, Normal = 130/85- 29% to 39%, Normal Systolic = 140/90 - 7% to 22% and mild hyper 2.48% to 0.40%. An hourly “Cyclic” and “APecR” came to an average of more than 10,000 footsteps per session with 80.6% performed full by all participants. The enjoyment, relaxing feelings and perspiring among participants with the training heart rate 70% HR Max. It contributed to practices, profiling knowledge and maintenance of one’s self - health status to keep fit for single daily functional throughout the entire life. “Cyclic” and “APecR” where be an alternative approach of physical activities in enhancing of transferring of knowledge as far as community change agent in extension education, the body of knowledge.*

Keywords: Self-Health profiling, “Cyclic”, “APecR”, Effectiveness, Weight Loss, & Blood Pressures Rate.

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### INTRODUCTION

As far as universe health and spreading of COVID 19 (the Corona Virus), pandemic without any vaccines throughout the whole world is concerned, scientists all over the world were seriously involved in laboratory experiments, venturing into finding the most effective vaccines possible. The very high rate spread of COVID 19 throughout the world - from East to West, North to South without differentiating colours skin, religions or believes, rich or poor. This scenario got worsen with the world’s climate changes, global warming and borderless spreading of this disease. In reality, there were plenty mechanisms or preventive measures, which were effective to break the virus chain. Thus, reducing the death tolls and tremendously controlled increment of cases, the world’ highest “silent killer” or “Champion Virus”. As far as precautions and preventive measures, such as Standard Operational Procedures: 3 W – Wash hands, Wear Masks and Warning & 3 C – avoid Crowded places, Confirm temperature and Close conversation. Malaysians are also encouraged to stay home and wear masks wherever they go. Moreover, often washing of hands and keep safety distancing from each other. As a result, most civilians or people of one’ country would encourage to work from home (WFH), restriction of recreational activities such as outdoor or crowded places specified in the Movement Control Order (MCO) and Conditional Movement Control Order (CMCO). This scenario less worried the rise of obesity rates, high risk groups especially the younger generations, elderly groups of facing those chronological health risks’ group or even non-communicative diseases (NCD). WHO stated in 2012 sets of comprehensive landmark “25 by 25” mortality, reduction target and 25 indicators which included rapid aging, rapid urbanization process and literacy rate and obesogenic environment accounted 67% or over 70% of the burden of NCD in 2014.

## THEORY BASED – EXTENSION EDUCATION

The concept and practice of extension education were the central themes of various fields of studies. Extension education is defined as an educational process to provide knowledge to the rural people about the improved practices in a convincing manner and help them to take decision within their specific local conditions (O.P. Dahama 1973, Boone, 1989., & Rahim Md Sail, 1995). Extension is a two-way channel; it brings scientific information to the village people and also takes the problems of the village people to the scientific institutions for solution, it is a continuous educational process, in which both learner and teacher contribute and receive (B. Rambhai 1958). However, aspects of extension practice in later parts, the meaning of extension became broader beside agriculture sectors but towards educationist with the principle of delivery knowledge in common activity in the most countries of the world, and it was a basic element in program or projects formulated to bring about change in either rural or urban areas. Extension services are similarly a common feature of the administrative structure of rural areas and these services have the responsibility, in partnership with the others, of directing programs and projects for change. The researchers here played the roles of change agent especially the community's health profiling or sharing knowledge of maintenance health status among elder adults with urbanization process (Boone, 1989., & Rahim Md Sail, 1995).

## TYPE OF PROGRAMS/ INTERVENTIONS

### *“Cyclic” Program*

Mechanically the participants' body slanting forward, eyes look far ahead with neck tilted, shoulder relax and abdomen or whole body perpetually with horizontal plant. Participants' lower extremities with two legs with rotatory action with the firm ankle context on the pedals of Compact Air Elliptical Cardio Workout (CAECW) equipment which was similar as cycling like actions and hence as “Cyclic” program. Both hands of participants with elbow flexion about 45 degrees and relax swinging alternatively as far as jogging style and when participants tired, participants could hold on to the handle of the CAECW equipment ([Jump up](#) Cycling UK Statistics. (accessed 24 May 2015).

### *Anatomy and Mechanism of the “Cyclic”*

There were many components of human body that were working whilst “Cyclic” was not just a sport of the lower limbs. Below are the areas of anatomy that been broken down to provide more detail on what was happening.

### *Lower Limb and Role in “Cyclic”*

The pelvis was the start of the lower limb complex, and was comprised of the ilium, ischium, and pubis, coccyx, and sacrum bones. The ischial tuberosities were located here and play an important role for the hamstrings, as this was where all three originate. The hip was also an important anatomical feature as this was a large 'ball and socket' type joint, which allowed for a large degree of multi-directional movement. During cycling like activity, the hip allowed for and guides hip flexion, extension and small degree of rotation. This 'hinge' joint acts as a lever to the femur, as the femur was the longest bone in the body this could create large amounts of torque. This was where the patella played a vital role, as it acted as a fulcrum and enables the force from the upper leg to be transferred to the lower leg. The patella was a sesamoid bone that sits within the patella tendon and connects the quadriceps to the tibial tuberosity. The patella glides in the intercondylar fossa of the femur. Lower limb of complex the next joint of relevance was the ankle. This joint allowed for dorsiflexion and plantarflexion in cycling like activity or “cyclic”, which allowed for a term known as 'angling' where the foot moves from a dorsiflexed position to a plantarflexed position through the bottom of the pedal stroke before returning back to a dorsiflexed position ([Jump up](#) Wozniak CA 1991)..

### *Trunk, Back and Arm*

Abdominal muscles such as the rectus abdominus help to maintain stability as does the obliques. The obliques similarly to the back muscles will help stabilise a contralateral limb movement. As doer move up the spine toward the shoulders, the latissimus dorsi and trapezius muscles enable the rider to fix their upper body onto the handlebars. The upper body had a role in stabilising contralateral torque. Similarly with the feet, the hands could undergo sustained amount of pressure so vascularity and nerves became injured, most commonly the ulna nerve (cyclist's palsy) followed by the median nerve ([Jump up](#) Wozniak CA (1991)..

### *“APecR” Program*

One of the scientific physical fitness program and measured unit, and it provided a great feeling of achievement as well as offering an enjoyable and very accessible way to get fit and healthy. A person needs only to put on a pair of running shoes to run any time or anywhere. “APecR” as measured units as well as one physical fitness maintenance program that under scientific studied recently and copyright gained (IPR - LY2019004970 – 28/8/2019) and it make as one form of exercise, but the truth was that just about every aspect of a person's physical and mental health benefited from this “APecR” (Chee Hian Tan., Jung Young Lee., Raja Mohammad Firhad., & Walter King Yan Ho. 2020).

### *Objectives of “APecR”*

Mainly to re - justify the of “APecR” on adults aged 50's with the method by post observation with intention of profiling one's health after the pre- observation.

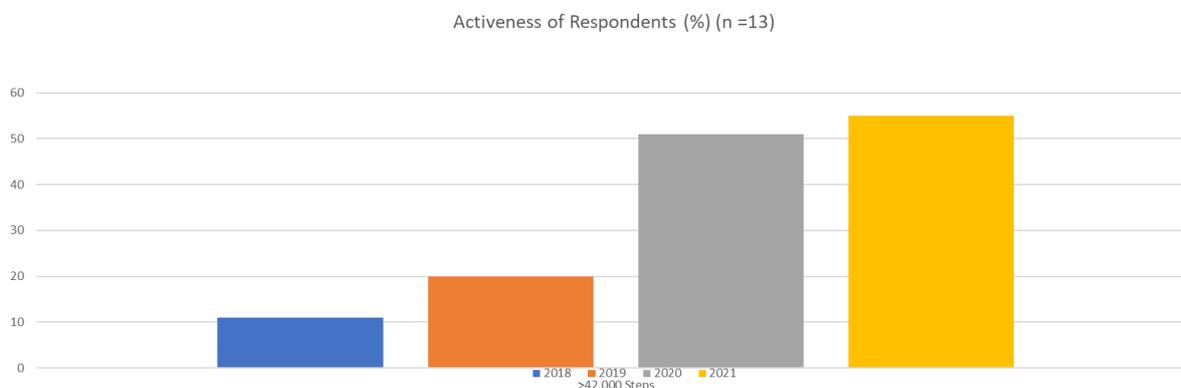
**EQUIPMENT AND ATTIRE USED – “APECR” AND “CYCLIC”**



**Protocol and Procedures of the “Cyclic” and “APecR”.**

- **Choices of Percentage in Training Heart Rate (THR):**
- 60% of Max THR is 100.8bpm
- 70% of Max THR is 117.6bpm
- 80% of Max THR is 134.4bpm – (ACSM, 2008)
  
- **Blood Pressure (BP) Reading Rate**
- 120/80 – Optimal BP
- 130/85 – Normal BP
- 140/90 - Normal Systolic
- >140/ 90 – HBP I – (WHO- 2021)

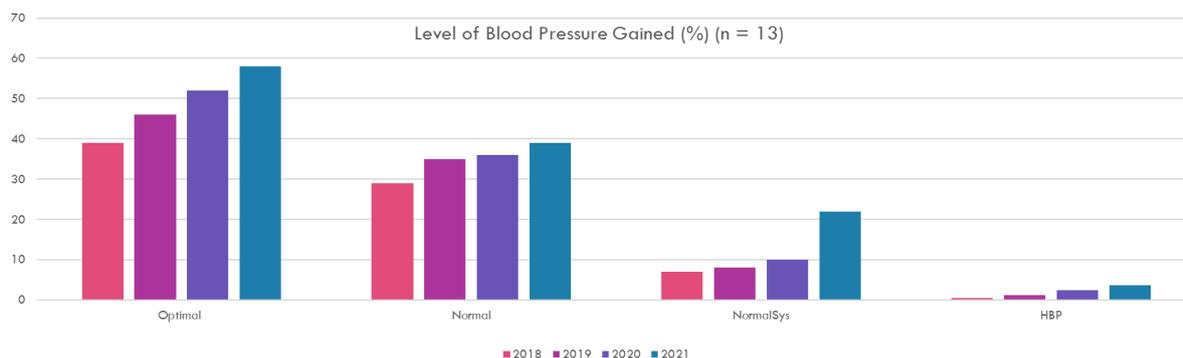
**RESULTS EMPIRICALLY**



**Figure 1: Activeness in Percentage of Elder Adults**

*How far the physical activities such as “Cyclic” and “APecR” on the elder adults’ Blood Pressure and Weight Lose?*

Figure 1 to 2 described the activeness of participants in performing “Cyclic” and “APecR” which was monitored by CAECW and Route Map of “APecR” statistically and results showed in figure form on the activeness or seriousness among participants and the level of blood pressure gained after throughout years’ involvement. The figure showed gradual active level (in Percent) among 13 participants.



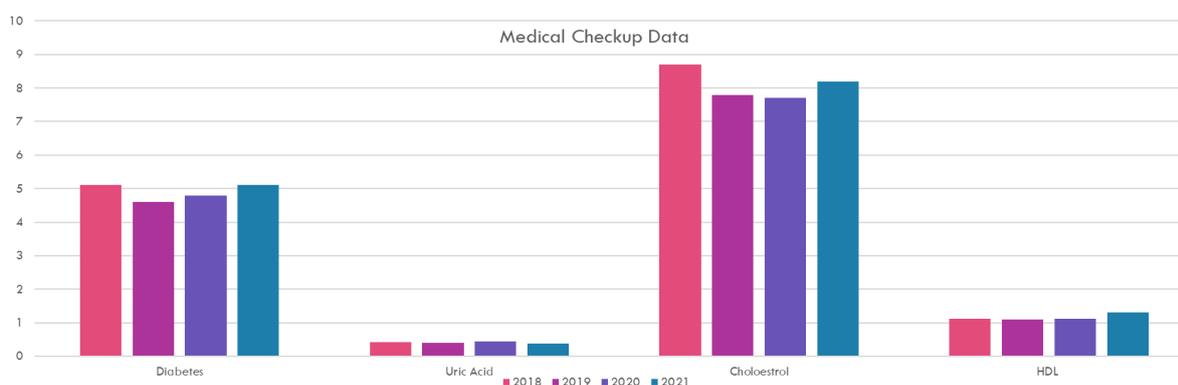
**Figure 2: Effectiveness of “Cyclic” and “APecR” on the participants’ Blood Pressure**

Figure above showed that increasing percentage in doing the “Cyclic and APecR” from year 2018 to 2021 which progressively from 11% (2018), 20% (2019), 50 % (2020) and 55% in 2021 respectively that respondents performed “Cyclic” and “APecR” by themselves, this was seriousness concerned about own health during Pandemic and persistency of walk with talk – dedicated personal showed.

**Table 1: Result of Weight Lose (n = 13)**

Month/Year	Kg
March 2018	81.4
March 2021	79.6
Average - 1.8 Kg reduced	

Table 1 recorded the weight of those participants had been reduced from 81.4Kg in the March 2018 and became 79.6Kg (March 2021) at the results showed there was actual average 1.8Kg lose for all respondents after 4 years concerned. As the result, it was confirmed the effectiveness of overload principle would gain weight lose result. Various intensity could improvise one’s training program. Diet control was significance factor in weight lose but “Cyclic” and “APecR” could gave impact to blood pressure level as well as weight lose impact as far as the end results of the study concerned



**Figure 3: Medical Data support**

Figure 3 showed statistically that there was gradually improvement in percentage gained concerned of 13 participants overall blood pressure readings in Optimal, Normal, Normal Systolic or High blood pressure level respectively. The optimal blood pressure readings (120/80) among participants was showing improvement of 19% which was 39% in 2018 to 58% in year of 2021, it means the effect of these “Cyclic” and “APecR” took part by gaining higher percentage of optimal blood pressure in total. Normal pressure (130/85) was improving from 29% (2018) to 39% (2021) and definitely normal systolic level will be lesser percentage than the others, it showed vice versa results (Chee Hian Tan., Jung Young Lee., Raja Mohammad Firhad., & Walter King Yan Ho, 2020)

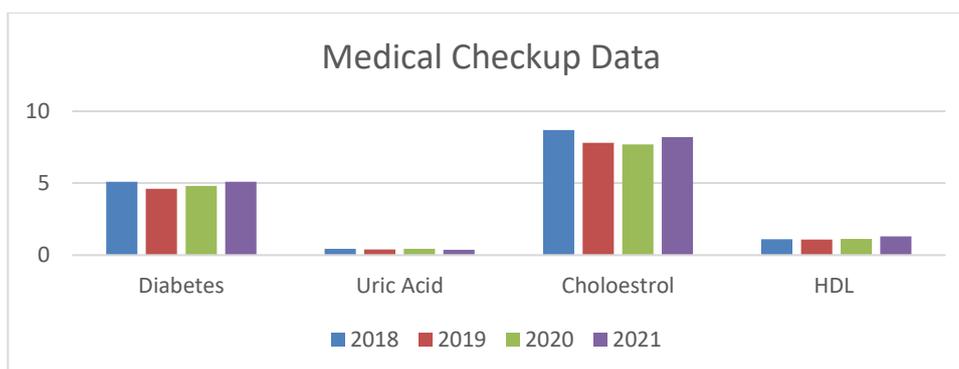


Figure 4: Medical Data Support (n = 13)

Figure 4 showed 4 indicators of personal health profiling with medical check-up reports that kept intention by this study, it showed that diabetes level keep contently at normal level (<5.1 MMOL/L) or slightly below the bench mark and this result make all respondents “happy” with the activity they performed apparently. Uric Acid that basically make respondents’ feel the joint pain and fast tired showed slightly decreased which from 0.43 MMOL/L to 0.30 MMOL/L, it could be better improving where they continue with these programs. High Density Cholesterol which commonly said as good cholesterol results showed increasing from 1.0 MMOL/L to 1.5 MMOL/L after these physical activities but there was huge workout needed or improvement by all participants. The negative or weak part that all participant needed to pay attention was their total cholesterol level which was not much changed to betterment showed by the medical results because it was seem from readings 8.4 MMOL/L (2018) to 8.0 MMOL/L in year 2021 after years duration of “Cyclic” and “APecR”, there level was still above normal total cholesterol reading (< 5.2 MMOL/L). Duration of 60 minutes – one session of “Cyclic” and “APecR” for 4 to 5 times a week across 4 years duration. Duration time was the main parameter and intensities with variety physical activities consistently with “Cyclic” and “APecR” of participants were significant physical activity set would promise certain self - health level of elder adult 50’s concerned as far as supported by medical data where diabetes could be under control pretty good, uric acid reduced and HDL increased after physical activity but cholesterol level highly depend on healthy diet consumption (CP) because this study without food in - take control parameter.

## DISCUSSION AND RECOMMENDATION

After thorough and long duration of investigating process of this study concerned, there were several significant findings from the implemented self- health profiling programs that further discussed in this section:

The “Cyclic” and “APecR” were actually two simple ways to increase one’s overall level of health (Chee Hian Tan., Jung Young Lee., Raja Mohammad Firhad., & Walter King Yan Ho. 2020., Tan Chee Hian., Lee Jung Young., Raja Mohammed Firhad Raja Azidin., Walter King Yan Ho., & Tetsu Moriguchi 2022. “Cyclic” and “APecR” could raise your levels of good cholesterol while helping one increased lung function (Elizaberth Hufton, 2011). In addition, it could also boost one’s immune system and lower one’s risk of developing blood clots. Sugar level was under control per se but even better improvement will gain with diet parameter to be further examined Food (Habits Research and Development, Malaysia. 1988). Moreover, along the 48 months with this progress and process of physical activities, it was hardly see any medical certificates that “send” to researchers by all 13 participants involved perhaps, these elder adults were satisfied in giving their effort to continue self- performed the “Cyclic” if under movement control and elsewhere they were outdoor performing their “APecR” in order to get them stabilizing their blood sugar contain with empirical supported and the end of this study. Moreover, the “Cyclic” and “APecR” were the best forms of exercises for losing or maintaining a consistent weight (Castelli, D. M., & Valley, J. A. 20070. A person felt a leading way to burn off extra calories and that it was the second most effective exercise in terms of calories burned per minute, following only after cross country which is outdoor and irrelevance for time being (De Bourdeaudhuij, I., Lefevre, J., Deforche, B., Wijndaele, K., Matton, L., & Philippaerts, R. 2005). However, type of food intake needed to be considered in order to gain better expected results (CP). However, losing weight was the main concerned and considered for these elder adults because they were influent by own cultural practices. At the end of the day, the awareness of weight could be the one of the main factors because once overweight or obese happened then NCD are most properly would occurred as far as metabolism of elderly adults concerned (Institute for Public Health, 2015).

Stress could actually cause a number of health and mood problems. It could also diminish appetite and sleep quality (Best, J. R. 2010). When a person performed “Cyclic” and “APecR”, they forced a person’s body to exert excess energy and hormones. “Cyclic” and “APecR” also helped to reduce chances of developing tension headaches. Participants felt “happy” after this study (Lumpkin. A. 1998). and especially the uric acid that participants gained in one way was reducing participants’ joints pain and could have better intimation with their spouses or girlfriends (Etnier, J. L., Nowell, P. M., Landers, D. M., & Sibley, B. A. 2006). Stress cause the elderly by having any forms of pains or sickness with their daily living and sweating a lot from the “Cyclic” and “APecR” performed by them for the long duration make them releasing their

unnecessarily stressful causes and this make them willing to join this project with academician in order to getting self - wealth (Etnier, J. L., Nowell, P. M., Landers, D. M., & Sibley, B. A. 2006). On top of it, when a person was depressed, the last thing a person likely want to do was to get up and let's go for an "Cyclic" and / or "APeCR" session. Yet a person would find that after only a few minutes of "Cyclic" and / or "APeCR", a person's brain would start to secrete hormones that naturally improve a person's mood. In fact, there were few things in the world that could better or more rapidly treat depression than exercise such as "Cyclic" and "APeCR". The findings showed that the elder adults had "not much time" to worry unnecessarily stuffs beside in mind to spend time for the fruitful programs they involved with researchers (Kamil Abidalhussain Aboshkair, Saidon Amri, Kok Lian Yee, Riyadh Khaleel Khammas, & Ali Yousuf Hussein. 2012). It may seem surprising to learn all of the different ways that "Cyclic" and "APeCR" could improve a person health, but the truth of the matter was that these were many benefits that they could offer to a person's body especially HDL level definitely could be gained or improve by physical activities daily without fail. However, LDL in the elderly caused by food intake and metabolism of them and HDL perhaps gaining by physical activities and LDL was causes from dietary domain. The findings showed improvement in HDL reading after this duration but yet researchers suggested to further control diet among these participants and it would be bigger "hurdles" because study with experimental design concerned. Thus, not all of the benefits of "Cyclic" and "APeCR" were physically. "Cyclic" and "APeCR" could provide noticeable boost to a person confidence and self - esteem (Etnier, J. L., Nowell, P. M., Landers, D. M., & Sibley, B. A. 2006). By setting and achieving goals, a person could help give self a greater sense of empowerment that left a person feeling much happier and self - confidence boosted in term of images even though the weight loss was not up to ideal target. However, self - confidence was highly reflexing whenever they felt good in building up their daily functional well without requesting much helps from their surrounding especially their youngers family members and at the same time, participants' family members also well appreciated the changes in their elderly perceptions on physical activities at home (Leonard, W.M. 1998).

Miscellaneous – Qualitative findings of this study also responded by these 13 respondents where, referring to their experienced with "Cyclic" and "APeCR" voiced up that the first 5 to 13 minutes are really killing people and it makes someone wanted to gives up to further doing physical activities (Jump up↑ CA Wilber, C1 Holland, RE Madison, 5F Loy ). However, the end of each program, physically feel really tired then relax but the mind was fresh (Ho, S. S., Dhaliwal, S. S., Hills, A. P., & Pal, S. 2012)., The moment cyclic and APeCR on "Peak" stage, the heart feel tension and heart rate fast beating but could be toned down with listening to favourite songs (National Health and Morbidity Survey 2015) ., Urinate and "Pooh" were smoother or even on time call., Consistency and persistency in doing the physical activities are the key or root of the word ., Sweat out few millilitre should covered with water consumption along or after the activities (Chee Hian Tan., Jung Young Lee., & Raja Mohamed Firhad Raja Azidin. 2018), No nightmare or lesser frequencies of wake up during middle of sleep., Could walk faster or firmer in climbing stair cases., Diet without control because of the cultural influences (can eat is considered prosperous in life) (Ismail, M. N., Chee, S. S., Nawawi, H., Yusoff, K., Lim, T. O., & James, W. P. T. 2002)., Felt hungry after the program. Sometimes even feel tire to put on attire – laziness happened, however, self - discipline and determination are crucial., Health concerned and happiness in life became motivated factors in this type of study (Leonard, W.M. 1998). Hence, these "Cyclic" and "APeCR" could be an Alternative Approach for Self – Health Profiling Methods especially In critical situation liked COVID 19 which force people to be stay home and tense to non - active out of home or outdoor activities and these make people became stress unnecessarily especially it could cause a rise of non - communicative sickness (NCD) throughout long duration of MCO, CMCO as well as RMCO which were the most worth alternative self - health profiling methods with "Cyclic" and "APeCR" programs for elder adults especially in 50's to 60's. For instant, physical activities could be performed in m any forms and many ways, there is no one perfect of physical activities' program but at this moment of timely, researchers found out that these two programs were relevant in costing perhaps the "cyclic" compare with "APeCR" programs. Hence, these participants were elderly and the health profile of self-required and self- willingness to perform and these make both programs as alternative choices in maintaining or enhancing better healthy status (Institute for Public Health. 2015).

## CONCLUSION

The "Cyclic" and "APeCR" as programs for health profiling among elder adults specifically by this study and mainly with the intention were encouraging changes in attitudes and self - fulfilment of elder adults and these would make elder adults be sustain in their daily living without facing NCD and this contributed to the quality life of elder adults either present days or in future in facing challenges of their living (Ministry of Health 2016., & Arunah, C., Shukender, SK., Noran, N.H. , Wah, YL., & Feisal I. M (2017). On top of it, as far as community change agents were concerned, researchers were playing the roles of bringing changes to the community especially the sports culture and healthy life style (B.Rambhi (1958) in Priyanka, K (1974), Boone, 1989., & Rahim Md Sail ,1995) and even to encourage more or further study with concurrently nation movement which could create one harmonies and healthy nation. With the six (6) significant facts showed by the "Cyclic" and "APeCR" programs that conducted by these researchers, however, the further study which might seriously considered to investigate those facts throughout applying qualitative design study and / or mixture with laboratory tests (Baumgartner, T.A., Strong, C.H. & Hensley, L.G. 2006)., & ACSM, 2008) in order to be further into scientific investigation domain (Best, J. R. 2010).

*Acknowledgement to all participants in Ethical consent and consideration of all individuals whom participated in this study. Support of Faculty of Sports Science and Recreation and Research collaboration from SUWON University of South Korea: Prof Dr Lee Jung Young and Associate Professor Dr Walter King Yan Ho from Macau University as well as experts from FSR UiTM Shah Alam. All 13 participants voluntarily took part and cooperated. Thanks to the External observers – John Tan – undergraduate from UNISEL (22 years old and Jane Tan – Secondary High School (18 years old).*

### Declaration of Interest

All authors are agreed to publish this manuscript with any journals without any self - interest per se.

### Contribution of Authors

Dr Tan Chee Hian acted as Main and corresponding author – came out the rapport with participants, in - charge of demonstration of taking all measures needed in the study as well as reporting the results.

Dr Lee Jong Young who came out ideas with profiling health status among participant. Demonstrated measurement tools and putting ideas in presentation of the manuscript.

Dr Raja Mohammed Firhad Raja Azidin involved in data collection and data analysing especially graphs presentation of the manuscript.

Dr Walter King Yan Ho who involved in write out and justifying the facts of the whole data collection process.

Dr Tetsu Moriguchi involved thoroughly in searching literature and scientific supports in the write out of this manuscript as well as approve the ethic part of participants and researchers.

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