Identify Self – Fitness Profiling among Urban Malaysian Individuals Age 50's

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ABSTRACT

This study aimed to identify self- fitness profiling and describe effectiveness of "APecR" on Malaysian individuals aged 50's in the complications modern life concerned. Twenty (n = 20) participants [(age = 52 ± 3 years)., (weight = 83 ± 1.5kg)., & (height = 168 ± 30cm)] voluntarily recruited. Workload, heart rate, sleeping pattern, blood pressure and energy intake and expenditure were recorded for 3 continuous cycles (3 months). Findings revealed 42.2% participants were very active (> 12,000 steps), 9.7% was active (> 10,000 steps), 0.11% was moderately active (7,500- 9,999 steps), 22.6% was not active (5000 – 7499 steps) and 16.2% was sedentary (< 5,000 steps). Participants' average running steps, active time, total distance covered and energy expenditures during the first, second and third month were [(11,161 steps, 2 hours 5 min, 247.1 km distance and 1394 kcal)., (13,197 steps, active time 2 hours 19 min, , 296.8 km distance covered and 10,090 kcal)., and average of 11, 005 steps, active time 2 hours 5 mins, distance covered of 235.5 km and energy expenditures of 8528 kcal)] respectively. 30% of the participants blood pressure were normal (120/80 mm Hg), 43% was pre - high blood pressure (130-140/80-90 mm Hg) and 27% participants were in the high blood pressure category. Findings also revealed the participants gained longer sleeping time (7 hours 7 mins) at post "APecR" compared to pre – "APecR" (6 hours 46 mins). All participants demonstrated an average of moderate level of intensity. These finding suggested by identifying fitness status and delivering individuals' fitness profile were vital important role in promoting active lifestyles in elderly age 50's population.

Keywords: *health profiling, physical activity, sleeping pattern, heart rate, blood pressure, Malaysia*

Introduction

In Malaysia, according to the latest health report's chart provided by Kementerian Kesihatan Malaysia (2017) said that there were rough percentage of 29 to 32 out of total 5.5 million Malaysian were in category of obese throughout 14 states nationwide and this report was without gender biases or aged group concerned. This scenario was crucial and it was worried and it attracted highly consideration and attention from all Malaysians and Malaysia government as well because these costly medication budgeting annually might turn down the progress and process of developing other aspects in Malaysia instead of medication over spending from Gross Domestic Product (GDP) of Malaysia (KKM, 2016).

Therefore, this study considered vital and it was apparently first attempt to identify fitness self - profiles specifically among urban Malaysian individuals age 50's and described how effective of one "APecR" towards self - health among elder adults.

One of the most popular physical activities - running provides a great feeling of achievement as well as offering an enjoyable and very accessible way to get fit. A person needs only to put on a pair of running shoes to run any times or anywhere. A recreational runner who starts out to lose weight gradually becomes faster; a person wants to race, then to race well, then perhaps to try to win. As the runner becomes more and more involved in the sport, he or she finds to have a better understanding of and connection with their own body. As far as Asian or specifically Malaysian, were Malaysians having the trends to pick up running as habits?

Methodology and Design of the Study

It was quantitative study with observation designed concerned, at the same time whatsoever daily activities specifically on running or daily routine, sleeping pattern and diet style, heart rate as well as blood pressure of a person had been recorded with log book provided for all participants in this study. All participants recorded their own diet pattern of 3 months' time from day and night (twice in a day) within duration.

It findings may not be used to generate the whole population of adults in the ranged of 52 to 55 years old nationwide or global but it could be contributed into profiling the fitness level and the described how effective of running to one's health lifestyle and it was make sense in the significant contribution of various aspects as holistically fitness toward one - self. These physical activities or intervention been set that could be an vital indicator to one's individual benchmark as far as self- health profiling.

Samplings of the Study

20 respondents with 50's aged male Malaysian urban individuals with normal lifestyle and the qualification as varies walks of life and voluntarily basis. Participants were aged 52 to 55 years old. Duration of 35 to 80 minutes – one session for 3 to 5 times a week across 3 months. Time was the main parameter and intensities plus variety physical activities involved especially warm up and warm down been performed at before and after the intervention or "ApecR' session. Mean weight of all respondents were 83 ± 1.5Kg and respondents' height with mean of 168 ± 35mm.

Protocol and Procedures

Dynamic warm up and warm down at the beginning and the end of one session.

Daily food intake in Kilocalories recorded which according and referred in order to be able for measurement as outcomes of the study with the *Food Habits Research and Development, Malaysia. (1988). Nutrient composition of Malaysian foods. ISBN 987-99909-4*. Kilocalories burning of the : ApecR" was referred and recorded daily throughout regarding to the guidance from *Egger, G., Champion, N. (1993). The fitness leader's handbook. (3rd edit) Kangaroo Press.*

Basic Equipment Used

Fitness Gadget

Figure 1: Xiami Band

The Xiaomi Mi Band had been an international fitness trackers hit, and for good reason, the range has been so cheap one's might as well give them a go, and people have in their millions.   To   some extent the device does the job of helping the one to realise of how active (or sedentary) a person was, the device was comfort and the sleep tracking works even at the night time.

Tracking

Figure 2: Mit Fit Application Gadget

In terms of tracking, the Mi Band's sleep tracking was good and accurate - the module automatically detected that the person has gone to sleep, or woken up, and is a useful guide to how the person actually sleeping. (As for the deep sleep metrics, that's hard to tell if it's accurate so let's leave it that for a scientific test). Extras include the ability to set multiple alarms to vibrate to wake the person up, a popular feature brought over from the first two Mi Bands. As for the rest, Xiaomi has made both its step counting and heart rate tracking algorithms and tech more accurate. The activity tracking still isn't quite up to scratch but, interestingly in different ways to previous Mi Bands. It struggles to auto recognise when a person started running / working out and its idle alert wasn't as reliable as most devices with this function. Historically found that the Mi Band 2 overestimates overall activity, tracking wrist movement as walking when it's not, but when a person wore it alongside the Alta, manufacturer actually found that the Xiaomi was tracking lower by hundreds of steps.

Water Bottle Used among Participants in the Study

Figure 3: Water Bottle Used

The International Bottled Water Association (IBWA) stated that Americans are increasingly relying on water bottles for convenience and portability. Multi-use water bottles can be made from high-density polyethylene (HDPE), low-density polyethylene (LDPE), copolyester or polypropylene. All offer the advantage of being durable, lightweight, dishwasher-safe and BPA-free. The main difference between each type of water bottle is the flexibility of the material. Copolyester and polypropylene bottles offer the greatest rigidity. HDPE bottles retain some flexibility, while LDPE bottles (most commonly associated with 'squeeze' type bottles) are highly flexible and collapsible (Glass Water Bottles: BPA Free Water Bottles 2012).

Running Shoes Used among Participants in this Study

Figure 4: Supernova Glide 7 Shoes

Feature:

Upper: Textile upper with seamless mesh in forefoot for maximum comfort and lightweight flexibility.
Insole: Breathable mesh lining; TORSION® SYSTEM for midfoot integrity Outsole: Continental™ Rubber outsole for optimal grip in wet conditions.
Weight: 314g (size UK 8.5). Decoupled heel for added shock absorption and Heel cage for added stability

Technologies:

Boost: Endless Energy in a revolutionary foam. Boost™'s energy-returning properties keep every step charged with an endless supply of light, fast energy. How does it work? Boost features thousands of visible energy capsules that store and unleash endless energy every time your foot hits the ground.

Torsion® System: Extended for energy return in the forefoot and natural integrity in the midfoot.
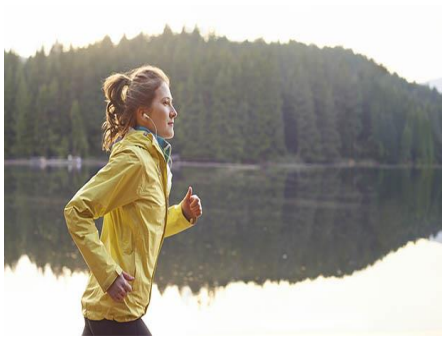
Benefits of Running

Figure 5: Posture of Running

Everyone knows that running is a great way to get into shape, but did you know that it could benefit almost every part of your body, as well as lift your mood? Running is incredibly effective at making you healthier in a number of ways. While it may not be everybody's favorite form of exercise, knowing what it can do for your life just may make you look at running in an entirely new light.

Proper Attire **-** *Benefits of Proper Attire*

Running shoes were the only equipment needed for running, but more experienced running friends told that a person should invest in "technical apparel. Technical apparel may seem extravagant, but as research had already found that technical apparel wa made from fabrics that offer performance features and benefits that a person's old cotton T – shit.

Attire Used

Figure 6: Train in *Climalite* apparel or T- Shirt and pent

Blood Pressure Gadget Concerned

Instrument Used in the Study **-** Hospital Comfort Upper Arm Blood Pressure Monitor Digital

Figure 7: Karemax or OEM – Blood Pressure Monitor

One's should understand that blood pressure accuracy is measured by the standards of sphygmomanometer type machines that a person see in doctor's offices, or the kind of school nurse checks you with.

Intervention – "APecR" across 3 continuous cycles (July 17- Sept 17)

Venue and Protocol in Constructed Unit Measure of the Intervention - "APecR" in the Study

Time of Performing "APecR" (Flexible Schedule)

8.10am to 8.25am - Stretching activities as warm up or dynamic – walking a distance.
8.25am to 9.55am – Morning workout time – "APecR" (1 hour or / and one and half hours).
9.55am to 10.15am – Push up, crunches or stretching activities as warm dawn.

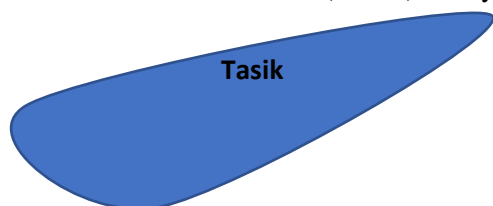*Water Consumption* - Drinking water 3 - 5 glasses or even more was depending on the capacity of one.

Figure 8: The Steps or "APecR" – Constructed

1foot step = 3 times of size 10 UK ADIDAS designed shoe.

Map or Route of "APecR"

Location: Taman Tasik Shah Alam (TTSA) Seksyen 14, Selangor. Start at Point A – Tasik Tengah, TTSA

Point A -

Tasik

Tasik Barat, TTSA.

One round of it = 3600 footsteps – 1 shoe size is 28cm X 3 size = 84cm
With the 84cm as one footstep x 3600 footsteps = 302,400cm and converted it to Km = 3.024Km.
Speed for the jog or morning workout is Distance divided time taken.
 Distance 3.024 KM and Time was 90 minutes so speed = 3.36 Km/h = **One "APecR".**

According to the benchmarking set by Majlis Bandaraya Shah Aalam (MBSA), Selangor State in Malaysia with Kementerian Kesihatan Malaysia (KKM), this workout was = 10,800 steps and it was considered as having Active lifestyle of the person – Sources: TTSA, Selangor: Local Authority 2015.

Heart rate for resting was set in between 65 – 70 bpm and normal time heart rate was 80 - 84bpm.

Max Training heart rate conventionally = 220 – 53 = 167bpm (2017 with age of 53 years old)

Choices of Percentage in Training Heart Rate (THR):

60% of MaxTHR is 100.2bpm
70% of MaxTHR is 116.9bpm
80% of MaxTHR is 133.6bpm

Psychological Aspect of Respondents

Respondents feel free to chit chat and / or all source of relaxing activities were allowed in the group of even individually during the intervention conducted and this make all respondents keen to turn out to be with other friends so turn out rate was 85% without failed unless there were unexpected incidences happed to someone.

Individuals' "APecR" Record

Started with body weight 83.5Kg among respondents. End up heart bit was 134bpm and recovery was after 2 minutes the heart rate became 120bpm.

Optimum working heart rate should be 220bpm – 53 = 167 bpm. 134bpm heart bit was actually more than 80% of 167bpm workout rate and at the end of the day backed to 120bpm. This was considered respondent's daily "APecR" without fail unless there was meeting schedule or public holiday. Evidences with photo of all measurement of the TTSA and benchmark of it.

Target Body Weight

76 Kg was the target according to height and weight of respondents. Mean was 8.3 ±1.5 Kg to reduce until time of achievement hit. Optimum health related heart rate as well as recovery rate increased. On diet throughout the intervention – "APecR" (recorded) along the time concerned and setting the time to achieve a person target body weight (without diet control mechanism).

Mechanism

Effort and consistencies as well as persistent of making the miracle happening once the time set achieved. Finding showed diet control was playing a vital role as well as going on with the intervention throughout the entire life.

Supportive Data Gained – Log Book provided

Daily food intake in Kilocalories referred and recorded.

Food Habits Research and Development, Malaysia. (1988). Nutrient composition of Malaysian foods. ISBN 987-99909-4.

Kilocalories burning of the daily "APecR" were referred and recorded daily throughout.

Table 1: Overall mean Food intake in Kcal by the "APecR (n = 20)

Breakfast (Food intake)
One plate of noodle (± 347 Kcal) and one glass of Nescafe (± 317Kcal)

Lunch Diet
One bowl of noodles (± 347 Kcal) and one cup of Nescafe ice (± 300 Kcal)

Dinner
One plate of rice with mix vegetables (± 450 Kcal)

"APecR" by the 20 respondents for 35 minutes to 80 minutes with the THR of 65% to 70% from the 80bpm. Distance of run covered around 8 to 10.6 Km.

Total Intake = ± 2128 Kcal
Total Expenditure = ± 2580 Kcal.

Expenditure energy in Kcal was slightly higher than Kcal intake daily throughout 3 months of "APecR" among 20 respondents This study indicated this "APecR" had significant impact on sleeping pattern, steps counts and heart rates for continuous 3 months maintain at reduced average 3.2 Kg from of 83.5 Kg to 80.3 Kg among these 20 male adults.

Empirical Findings Support of the Study

How effective was the "APecR" on the Urban Malaysian Individuals' Blood Pressure, Sleeping Pattern and Weight Lose?

Table 2a, b and c were described the activeness of respondents in performing "APecR" which was monitored by Mi Fit band statistically and even in different mode of accumulated steps that had done by all respondents in this study concerned.

Table 2 (a): Results of the overall 1ˢᵗ Cycle (July 17) APecR" by Respondents (n = 20)

Mode of accumulated		Percentage
Very Active	(> 12,000 steps)	45.2%
Active	(> 10,000 steps)	9.7%
Moderate	(7,500 - 9,999 steps)	0.11%
Not Active	(50000 – 7499 steps)	22.6%
Sedentary	(< 5,000 steps)	16.2%

In the first cycle which was July 2017, 45.2 percent respondents were in very active stage which was above 12,000 steps, 9.7% in active level, 0.11% in moderate active 22.6 % was in not active stage and 16.2% was in sedentary level which was less than 5000 steps a day.

Table 2 (b): Results of the overall 2nd Cycle (August,17) APecR" by Respondents (n = 20)

Mode of accumulated		Percentage
Very Active	(> 12,0000 steps)	67%
Active	(> 10,000 steps)	13%
Sedentary	(< 5,0000 steps)	20%

In the second cycle which was August 2017, 67% respondents were in very active stage which was above 12,000 steps, 13% in active level, and only 20% in sedentary level which was less than 5000 steps a day.

Table 2 (c): Results of the overall 3rd Cycle (September, 17) APecR" by Respondents (n = 20)

Mode of accumulated		Percentage
Very Active	(> 12,0000 steps)	45%
Active	(< 10,000 steps)	28%
Not Active	(5000 – 7499 steps)	14%
Sedentary	(< 5.0000 steps)	14%

In the third cycle which was September 2017, 45 percent respondents were in very active stage which was above 12,000 steps, 28 % in active level, 14 % in not active stage and 14 % was in sedentary level which was less than 5000 steps a day.

Table 3: Mean Steps Counted in 3 Months of APecR" by Respondents 2017 (n =20)

Month	Steps	Active hours	Distance Covered	Kcal Burn
July	11,161	2' 05"	247.1 Km	1394
August	13,197	2' 19"	296.8 Km	10,090
September	11, 005	2' 05"	235.5 Km	8528

Hence, average steps concerned, table 3 showed the result of mean steps counted from July, August and September respectively and at the same time, there was mean active time for the 20 respondents as well as distance covered by respondents. Thus, the Kcal burned showed in table 3 to support the findings.

Table 4: Sleeping Pattern of 3 months of APecR" by Respondents (n = 20)

Month	On Bed hours	Deep Sleep	Light Sleep	Time to bed	Awaked
July	6' 46"	2'42"	4'04"	11.23pm- 6.10am	0
August	7'	2'58"	4'01"	11.06pm- 6.07am	0
September	7'07"	2'54"	4'12"	11.14pm- 6.23am	1

Table above, showed sleeping pattern of these respondents concerned by record made in individual's log book and came to conclude that on bed time of them getting longer because of "APecR" make the respondents tired and fall in sleep on bed as showed from 6 hours 46 second (July) to 7 hours and 7 minutes by September. Deep sleep recorded getting better in hours considered which was 2 hours 42 minute (July) to 2 hourly and 54 minutes when September record concerned. This goes with light hours also showed similar longer hours where else time to bed was not a good indicator because most properly it was cause by busy night time activities at home and time to wake up was set by alarm clock per se. However, one time awaked was recorded in September, this showed that the environment of sleeping room needed to be considered in term of getting sleeping pattern more appropriate as one significant indicator in this study.

Table 5: Result of Weight Lose and Blood Pressure Mean among Respondents (n = 20)

Month	Weight (Kg)	Blood Pressure Reading	Percentage
July	83.5	Excel = 120/80	30%
		Normal = 130/85	43%
		Normal Systolic = 140/90	22%
		Mild = 160/100	5%
August	82.3	Excel = 120/80	34%
		Normal = 130/85	45%
		Normal Systolic =140/90	15%
		Mild = 160/100	6%
September	80.3	Excel = 120/80	47%
		Normal = 130/85	47%
		Normal Systolic = 140/90	3%
		Mild = 160/100	2%

Data of July, August & September, 2017.

Table 5 recorded the weight of those respondents had been reduced from pretty good reading whereby it was from 83.5 Kg in the July and became 80.3 Kg at the 3 cycles of the results showed there was actual 3.1 Kg lose for respondents concerned. Thus, the respondents heart rate showed improvement as well by Excellence stage which was 120/80 from 30% at 1st cycle to 47% at the third cycle and followed normal stage of heart rate from 45% at the 2nd cycle to 47% at the final cycle. Where else, in July there was 5% at the mild level and at the September's result showed only 2% respectively. Normal systolic stage also showed result of getting better from 22%, reduced to 15% and even lesser rate of 140/90 at the September reading respectively. This could be concluded that the intervention or "APecR" in three months duration make sense in effective on the respondents' heart rate.

As the result, it was confirmed the effectiveness of overload principle would gained weight lose result. Various intensity could improvise one's training program. Diet control was significance factor in weight lose but "APecR" could give impact to sleeping pattern, heart rate as well as weight lose at the end results of the study concerned. Duration of 35 to 80 minutes – one session for 3 to 5 time a week

across three months' time. Time was the main parameter and intensities with variety physical activities. Dynamic warm up and warm down at the end would be promising results if there was seriously study conducted and practice or consistency of respondents in significant physical activity set would promised fitness level concerned as the end of research.

Conclusions and Practical Applications

This study was apparently first attempt to identify self – fitness profiles specifically among urban Malaysian individuals age 50's and also described the effectiveness of "APecR" as an intervention. This study was quantitative with statistical research conducted on local elder adults' fitness level especially from Sport Science perspective and this empirically results showed that "APecR" was appropriate intervention as far as physical activities are concerned. Thus, the results contributed to several perspectives and practical applications to individuals as well as to the government liked:

1.   Constructed **One "APecR"** as intervention measured Unit of Urban Malaysian aged 50's individuals which mean **one "APecR"** was equivalence to 3.36 Km/h speed of running and end up with Kcl burned was 138Kcl per "**APecR**". This could be contributed to test and measurement, the body of knowledge and innovation aspect.

        According to "The Benefits of Running," which was a paper written by Elizabeth McLeod Sadler of Vanderbilt University (2011), there were a number of benefits associated with running, including drops in blood pressure and body weight, and increases in lung capacity. While the types of equipment needed by runners was relatively limited, a good pair of running shoes was a must. Running shoes not only provide substantial midsole foot cushioning, they also offered arch support, aided in the prevention of injuries and could promote improved athletic performance.

2.   Categorized the particular urban Malaysian individuals aged 50's fitness level as managed to identify which regime contributed the most to get respondents' fitness and as the results, the urban Malaysian individuals in this study were considered overall having active lifestyle as elder adults concerned (WHO, 2016).

3.   "APecR" was effective on urban Malaysian age 50's individuals specifically on their sleeping pattern. With the better quality of rest, a person would get more "fresh" and energetic to face any "sudden" incidences or the least was fully utilized their functional in order to sustained their daily routine. Relieve Stress - Stress could actually cause a number of health and mood problems. It could also diminish appetite and sleep quality. When a person run, it forced a person's body to exert excess energy and hormones. Running also helped a person to reduce chances of developing tension headaches.

4.   Weigh lose of age 50's urban Malaysian were achieved at the end of 3 cycles of practices on "APecR" but it did not hit the target of 75Kg or 76 Kg according to their height and weight concerned and this is perhaps without controlled respondents' diet intake throughout 3 months' time. Running was one of the best forms of exercise for losing or maintaining a consistent weight. A person will find that it was 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.

5.   Blood Pressure readings among all respondents were enhancing certain improvement around 10 to 15 % overall in this study which mean the excellence stage of blood pressure increased compared with normal systolic, and mild stage. Perhaps, the normal blood pressure also seem to be getting better at the end of this "APecR" conducted. Dangers of High Blood Pressure - Hypertension causes extreme pressure on the blood that was trying to flow through your arteries. This constant pressure can cause arteriosclerosis (hardening of the arteries). This interferes with the steady blood flow to your brain, heart, kidneys and other limbs. The result was usually a heart attack or a stroke occurred.

6.   Heart rate of all respondents were under control, all respondents' heart recovery rate was fast back to normal regime gained and perhaps all these 50's aged respondents were active morning walkers before this "APecR" conducted.

7.   Friendship among researchers and respondents or even among urban Malaysian individuals in this study became closer relationship and life was great and happy feelings as their common comments about the "APecR" conducted. Boost your confidence, not all of the benefits of running were physical. Running could provide noticeable boost to a person confidence and self - esteem. By setting and achieving goals, a person could help give self a greater sense of empowerment that will leave a person feeling much happier.

8.   Believe it or not, running or in this case was "APecR" actually a great way to increase your overall level of health. Research showed that running could raise your levels of good cholesterol while also helping a person to increase lung function and use. In addition, running could also boost your immune system and lower a person risk of developing blood clots, this would definitely reducing medication budget of nationwide instead of over spending on medication rather than other scope of development nationwide.

9.   Community service was enable a person more concerned and considered other community that live togetherness in multiracial like Malaysia which conducting this study by delivery knowledges on fitness and exposure to community about ways of measuring own fitness level among urban Malaysian individuals specifically Shah Alam area so that the flourish of sport science's academia to contribute to the welfare and health lifestyle expert of local community.

10.   "APecR" could contributed to improve health and fitness, prevent disease, weight lose, self-sleeping pattern and self - esteem or psychological regime so it was in line with the statement of running really was incredibly beneficial to the body, mind, and spirit, and previous study resulted that even short runs can leave a person's feeling more energized, more focused, and better able to enjoy all that life has to offer (Kathryn Vera. Last Updated: Oct 27, 2015).

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