

# The Effect of 40 Days Static Stretching After Prayers on Flexibility Among Elderly Muslim Men

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## Abstract

This study was conducted to determine the effect of 5 times static stretching for 40 days on flexibility. A pre-experimental research design was used and the participants comprising 20 sedentary male aged 60 – 64 years of different weight and height participated in this study. They were engaged in 10 minutes of stretching for five times a day (after prayer) for 40 days of interventions. All participants completed the flexibility test before and after the intervention. The results showed that the participants had increased in inches in terms of flexibility after 40 days of intervention. The present study recommends static stretching after prayers (*salat*) as another approach for elderly people to prepare themselves before and during performing hajj or umrah. Future research may investigate its relationship with the psychological states of the participants and other health related fitness components.

**Keywords:** static stretching, prayers, flexibility, elderly

## 1. Introduction

A person is considered old upon reaching the age of 65 or above. They are classed into three categories which are 65 to 74 years (young elderly), 75 to 84 years (old elderly), and above 85 years (older elderly) (Papila, Olds, & Feldman, 2006). Hence, the likelihood of elderly people facing a decrease in their postural stability is very high (Nejc, Loeffler, Cvecka, Sedliak, & Kern, 2013). As revealed by Coriolano Appell, Perez, Maio Nascimento, and Appell Coriolano (2012), the functional capacities of every aging person.

The term physical activity may be defined in several ways. Physical activity includes all movements associated with everyday life (e.g., work, routine activities, exercise activities, and recreational activities (Miller, 2002). Generally, older adults are in retirement or that their work responsibilities require little physical activity. For this reason, it is important that their lifestyle incorporates recreational activities, exercise, or other activities that require physical exertion. Duarte and Appell (2005) suggest that a person should maintain an active lifestyle because the process of aging occurs varyingly for every individual.

Though it is accepted that regular physical activity can benefit the elderly regardless for all older individuals regardless of their physical health, it is not advisable, however, to enforce exercise or activity guidelines for all older adults. Although a sedentary lifestyle is often directly related to chronic diseases associated with aging, the activity level of many individuals' declines with age even for those with no chronic disease. Past researchers have highlighted the effectiveness of physical activity for elderly people particularly on their physical, social, and psychological well-being (Mechling & Netz, 2009). According to Benjuya, Melzer, and Kaplanski (2004), a person's ability to balance can be monitored by asking the person to stay in an upright posture while performing static and dynamic tasks. If their body balance is poor, their daily activity will be disrupted (Chou, Hwang, & Wu, 2012) hence, proper intervention needs to be introduced regularly to elderly so as to improve their quality of life and reduce their risk of falling. Past researchers have also found that strength training and coordinative exercise can benefit the elderly by controlling their postural stability (Skelton, 2001). Nonetheless, there is insufficient literature on flexibility training related particularly to elderly people (Frankel, Bean & Frontera, 2006). Barret and Smerdely (2002) have reported that apart from resistance training, flexibility training improves balance performance other than resistance training.

Muslims from all over the world congregate to Makkah for the annual hajj pilgrimage which includes three days of walking on various religious sites. The spiritual journey can be as taxing on the body, as doing on extended

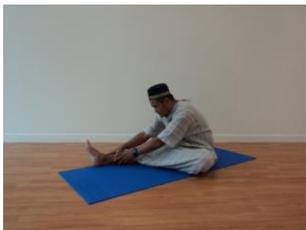
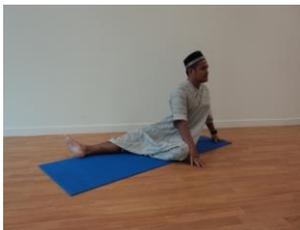
bout of physical activity or a hiking trip. Thus, there is a need for research could offer suggestion to help that avoid tight muscle or pain which could allow elderly pilgrimages' to walk more efficiently for long periods of time. Indeed, the role of stretching after prayers for Muslims has never been explored by researchers. Stretching should be the ideal intervention for elderly people to apply as a home-based exercise program, in particular when performing hajj or umrah. Thus, the objective of this study is to investigate the effect of 5 times static stretching for 40 days on flexibility among a group of elderly men.

**2. Methods**

*2.1 Participants*

The participants in this study comprised twenty sedentary male aged 60 - 64 years, ( $M = 62.05, SD = 1.50$ ) of different weight and height ( $M = 78.95, SD = 9.28$ ), ( $M = 1.69, SD = .02$ ). They were recruited from a special training program conducted by Healthy Generation Malaysia.

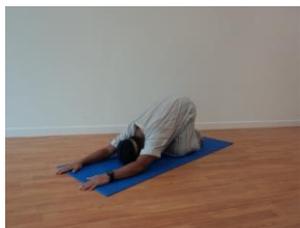
The participants engaged in 10 minutes of static stretching as recommended by the American College of Sports Medicine (2014), five times per day equivalent to the number of compulsory prayers for Muslim for 40 days equivalent to the numbers of days performing hajj. This program was conducted by a certified sports science instructor. To participate in this study, they were required to provide a written inform consent. Static stretching consists of 10 steps of static stretching with 60 seconds per step and followed by breathing techniques (see Figure 1).

Exercise	Description
	<p style="text-align: center;"><b>Hamstrings stretch</b></p> <p>Seated with both legs extended. Put the hands on the ankles or toes. Ensure neutral spine while flexing forward at hip, keeping extended leg straight. Hold the stretch for 30 seconds and then repeat the same stretch for a second time.</p>
	<p style="text-align: center;"><b>Hamstrings and groin stretch</b></p> <p>Sit with one leg extended and other knee bent out to the side. Ensure neutral spine while flexing forward at hip, keeping extended leg straight. Hold the stretch for 30 seconds and then repeat the same stretch on the other leg.</p>
	<p style="text-align: center;"><b>Spinal rotation</b></p> <p>Seated with 1 leg extended to front and foot sole of bent leg against inner thigh, rotate upper torso outwards to side of bent leg. Maintain up right posture without rounding up back leaning backwards. Hold the stretch for 30 seconds and then repeat the same stretch on the other side</p>
	<p style="text-align: center;"><b>Groin stretch</b></p> <p>Sit tall with knees bent outward and soles of feet against each other. Place hands on ankles and depress elbow against back of knees while flexing forward from hip. Hold the stretch for 30 seconds and then repeat the same stretch for a second time.</p>



#### Quad stretch

Sit on heels of feet. Place hands about 12 inches behind hips  
Lean back, feel the tension on top of thigh (quadriceps), not on the knee.  
Hold the stretch for 30 seconds and then repeat the stretch for a second time.



#### Kneeling yoga

From kneeling position, sit back bringing hips towards heels (not sitting on ankles). Keep arms extended. Hold the stretch for 30 seconds and then repeat the stretch for a second time.



#### Chest and shoulder stretches

In a kneeling position, slowly interlace the fingers and raise your arms behind you. Go as far as you can until you feel a good stretch in the shoulders. Hold the stretch for 30 seconds and then repeat the stretch for a second time.



#### Upper back stretch

In a kneeling position, stretch the arms straight out and rotate the hands so that the palms face away from each other. Push the arms forward. Hold the stretch for 30 seconds and then repeat the stretch for a second time.



#### Forearm stretch

In a kneeling position, stretch the right arm out and turn the hand down so that the fingers point towards the floor. Use the left hand to gently pull the fingers towards you, feeling a stretch in the forearm. Hold the stretch for 30 seconds and then repeat on the other side.



#### Neck stretch

In a kneeling position, tilt your head to the left and put your hand on your ear. Do not push your head down. Feeling a stretch down the right side of the neck and shoulder. Hold the stretch for 30 seconds and then repeat on the other side.

Figure 1. Ten Steps of Static Stretching

The present study only selected one test (trunk/leg flexibility) to evaluate the ability of elderly people to carry on certain activities. The reliability of the test was .98 (Osness et al., 1996).

**Trunk / leg flexibility:** Sit and reach. This test procedure is similar to the sit and reach test item included in the YMCA Physical Fitness Test. A yardstick is taped to the floor with a perpendicular line over the 25-inch mark. The test performer, with shoes removed, sits with the legs extended flat on the floor and the heels at the 25-inch

mark. The yardstick should be between the legs, with the (0) point toward the performer. With the feet spread about 12 inches apart and one hand placed directly on top of the other, the performer slowly reaches forward, sliding the hands along the yardstick as far as possible. The performer must hold the final position for at least 2 seconds. The test administrator should place a hand on top of one of the performer's knees to ensure that the knees are not raised during the test. Two practice trials are permitted, and the better of two test trials is recorded. The score is recorded to the nearest ½ inch.

## 2.2 Procedure

A pre-experimental design study was conducted to identify the effects of 10 minutes static stretching on flexibility. The present study used the trunk/leg flexibility to evaluate the ability of elderly men to carry on certain activities. Stretching was done 5 times per day for 40 days during the training program. At the initial meeting, the participants underwent a health screening test before engaging in the program. Based on the medical clearance form recorded, all participants were free from any injuries and health problems. As recommended by the previous study, they had only performed some physical activity for less than one hour per week for at least a year prior to the intervention program (Ashira, Ratanavadee, Alongkot, & Katarina, 2010). Additionally, a medical assistant was assigned to monitor during the entire intervention session. Next, all participants were asked to complete 5 times per day of stretching program conducted by the certified instructor. Overall, the static stretching approximately lasted 10 minutes per session (Devries, 1962).

## 3. Results and Discussion

The preliminary assumption was normally distributed and a paired – samples t-test was conducted to evaluate the effects of 10 minutes of 5 times static stretching per day for 40 days on flexibility test among elderly men. Table 1 shows that there is a statistically significant improvement in inches of flexibility level from pre-test ( $M = 13.35$ ,  $SD = 4.19$ ) to post test ( $M=18.00$ ,  $SD=3.71$ ),  $t(19) = -14.56$ ,  $p < .001$  (two tailed). The mean decrease in flexibility level was -4.65 with a 95% confidence interval ranging from -5.32 to -3.98. The eta squared statistic (1.0) indicates a large effect size.

Table 1. Comparison of flexibility Level for pre-test and post-test

Measure	Pre test		Post test		<i>t</i>	<i>p</i>	ES
	M	SD	M	SD			
Flexibility	13.35	4.19	18.00	3.71	-14.59	<.001	1.0

Note. ES = Eta Squares

The static stretching performed for only 10 minutes 5 times per day for 40 days shows an improvement in inches of flexibility among elderly men aged (60 – 64 years). The most interesting findings in this pilot study is that static stretching when altered into a 10 steps for 10 minutes for 5 times after prayers per day was sufficient to increase inches in flexibility in sedentary older men. Additionally, this result supports other researchers who have experienced with stationary stretching (Rani & Mohanty, 2015; Gallon et al., 2011) and other methods of training (Long, Jackson, & Laubach, 2013; Shubert, McCulloch, Hartman, & Giuliani, 2010; Barrett & Smerdely, 2002). The improvement found in the present study can be attributed to the 10 minutes of static stretching as supported by the previous studies (Gallon et al., 2011; Ferber, Ostering, & Gravelle, 2002). The findings of the study are considered the first to determine the effects of static stretching after prayers for 40 days on elderly people.

The limitations found in this study are when the pre-experimental and only one group study design is weaker than true-experimental designs in terms of control. Therefore, the true experimental designs are recommended for future studies (Baumgartner & Hensley, 2006). Furthermore, it is recommended that the routines and activities of hajj, as well as the different components of fitness like cardiovascular and muscular endurance are included in future studies. Further research is also needed to determine the relative effectiveness of fitness components in the psychological and well – being of elderly people (Netz, Wu, Becker, & Tenenbaum, 2005; Arent, Landers, & Etnier, 2000).

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