Correlates of Physical Activity and Degree of Pain among Older Adults

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Received: July 26, 2010 Accepted: August 11, 2010 doi:10.5539/gjhs.v3n1p209

Abstract

Objective: To determine the degree of pain presented by the people selected in the present study and to establish a possible relation between this first variable with other socio-demographic ones (age, gender, civil status and occupation), as well as whether or not they practice physical activity, and if so, what type of activity; To check the relationship between the practice and type of physical activity, with the socio-demographic factors; age, gender, civil status and occupation.

Methology: 564 participants, with an average age of 61.05 years and an age range between 40 and 88 years from the Sabah, Malaysia, was made by a sampling technique intended to provide a natural composition with a criterion of inclusion, that is to say, people aged 40 or older. Various measuring instruments were chosen (pain scale and questionnaire) to collect the variables selected.

Results: The results indicated that 80.9% of the participants presented with a moderate degree of pain, the cervical area and knees being the structures most affected. On the other hand, 73.2% of the sample population habitually carried out physical and sporting tasks, with no differences according to gender, but showing differences according to age and occupation. The most common activities were walking (88.64%) and keep fit (25.65%). There was no correlation between physical activity and the degree of pain.

Conclusion: The main conclusions highlight the need to create exercise and health protocols and programmes with a multidisciplinary approach, adapted to the individual needs of each person and the promotion of the construction of new, modern sporting facilities in rural areas so that people may enjoy better sporting opportunities.

Keywords: Physical activity, Pain, Old age

1. Introduction

There is no one who would not grow old. Every being on the earth inevitably follows the cycle, determined by nature that takes him/her through variegated phases of childhood, adolescence, adulthood and maturity. Each stage has its own vigour, its set of responsibilities and its particular problems. Generally, with the advancement of age, the entire scenario undergoes a drastic change. The aging of the population and the lifestyle in the world encourage the development of new needs within the psychosocial context, bringing about what can be called a new "culture of longevity": special importance is given here to the improvement in the quality of life, that is to say, to live both longer and, above all, with better quality. All across Asia, the population in 65 age group will increase by 314 percent—from 207 million in 2000 to 857 million in 2050 (*Future of Population in Asia,* 2008). It is calculated that by the year 2020, 9.8 % of the Malaysian population will be more than 60 years old (Mohamed, 2000). This situation has strengthened the development of a new "grey market, that of the older person", many aspects of which are still unknown and, on occasions, this attitude can prejudice the adequate care and protection of our "older people" (Brewer *et al*., 1995; Carbonell, 1994; Cockerell, 1993).There is no doubt of the relationship that nowadays society establishes between old people and aging. Hernandez (2008) sets out three criteria to consider that a person is "old": chronological, social and physical. In turn these aspects can be influenced by a multitude of factors and variables.

When people age, they do so progressively little by little, due to several factors such as sex -for example, a woman has a greater predisposition to lose bony mass (Medina, 1997) people develop a series of physical

limitations and mental deficits inherent in the aging process (Armadans *et al*., 1996). At the physical level, anatomical and physiological changes are produced, as for example the reduction in the transport of oxygen (McArdle, 2002), which makes daily activities more difficult. In this connection, Saltin (1990) speaks of the difficulties of getting up or sitting in a chair after the age of 50; by the eighties, it is sometimes practically impossible. Bassols *et al*. (1999) and Catala *et al*. (2002) both indicate that the presence of pain is very frequent in the older adult.

Since the 1980s special attention has been paid to concept of aging, exercise and quality of life. Among others, Hagberg *et al*. (2001) have commented on the similarity between the effect due to the passing of time and those resulting from a sedentary life. There are also many studies that show the influence of physical exercise (P.E) in people of retirement age; thus, Blair (1984) indicates that the effect of P.E. in old age is an important factor in the prevention of illnesses and the promotion of good health. Bruce (1984) also highlights the exceptional performances that sportspersons of middle and advanced age can achieve, and Costil *et al*. (1998), Gutierrez *et al*. (1997) and Zurita *et al*. (2008) confirmed the positive effect of the practice of long-term, regular physical activity on the adequate functioning of the body's physical and physiological processes.

In addition, the influence of exercise in the prevention of chronic illnesses must not be forgotten (Lamb, 1985; Herr *et al*., 2001).

Based on this, we have proposed a series of aims to be considered in this research:

- To determine the degree of pain presented by the people selected in the present study and to establish a possible relation between this first variable with other socio-demographic ones (age, gender, civil status and occupation), as well as whether or not they practise physical activity, and if so, what type of activity.
- To check the relationship between the practice and type of physical activity, with the socio-demographic factors; age, gender, civil status and occupation.

2. Material and Methods

2.1 Design

A quantitative descriptive and transversal design

2.2 Participants

Relevant variables obtained from a sample of 564 people with an average age of 61.05 years (ranging between 40 and 88 years), from city, towns and villages in the Sabah, Malaysia. Subsequently a correlation study was developed to analyse the degree of dependence between the different variables of the study.

2.3 Variables

The participants were selected using techniques of stratification, proportionality and randomness in the following variables:

- Age Groups. This variable was divided into various subcategories, spanning 5 age ranges: 40-49 years, 50-59 years, 60-69 years, 70-79 years and 80-89 years.
- Genders. Male and female.
- Work or occupation. Structured into five levels: worker, retired or pensioner, unemployed, housework and student.
- Civil Status. Divided into four categories: married or with a partner, divorced or separated, widowed or single.
- Degree of Pain. Split up into three categories: without pain, moderate and very intense.
- Level of Physical activity. Structured into two categories: practising physical activity and not practising physical activity.
- Type of Physical activity, defined in the following categories: walking, keep fit, combination of both, other modalities of physical-sporting conditioning.

2.4 Instruments

The variables of this study were recorded by two evaluation instruments:

- Modified questionnaire used by Gonzalez *et al*. (2008) and Jimenez-Beatty *et al*. (2003). Apart from the variable of habitability, this questionnaire recorded the socio-demographic variables described in that section later in this article

- EVA scale; this is a Likert type of scale with numbers from 1 (minimum pain) to 10 (intense pain), which registered the intensity of pain experienced by each participant (Castel *et al*., 2007; Fernandez *et al*., 2008). Furthermore, when the person indicated some type of pain, we suggested that the specific part of the body where that pain was felt should be noted down.

2.5 Procedure

The population used in this research was taken from city, towns and villages in the Sabah, Malaysia. The urban and rural characteristics were studied; through the selection of these latter variables a personal interview was arranged with the respondent.

We explained the whole procedure to follow in a letter-request asking for the collaboration of people interested. The definitive selection was made by consecutive sampling, following the natural composition and with a criterion of inclusion, namely, to be 40 years or older.

3. Results

Of the 564 people analyzed, 9.2% (n=52) were men and 90.8 % (n=512) were women. The sample was divided into five age groups, each of 10 natural years, observing proportional heterogeneity among the various groups.

The occupations of the sample are set out in figure 2, of the five groups, number 2, retired people and pensioners, is the biggest (48.8%) and the smallest that of the students; 0.2% (n=1).

The breakdown of the civil status of the sample showed that 71.3% (n=399) of the participants were married or living with a partner, 19.3% were widows or widowers, 6.4% were single and 3% (n=17) were separated. Of the total of people analyzed, 456 referred to pain in some part of the body (80,9%) at that time, while the rest, that is to say, 108 people (19,1%) claimed to be pain-free. The results obtained in relation to the scale of pain are set out in table 1.

Highlighting here the most representative data, 36.6% (n=167) of the individuals had moderate pain and 15.6% (n=71) very intense pain, table 2. It should be mentioned that the strongest pain was felt in the lumbar area (n=170; 30.64%), followed by the cervical zone and the knees (n=126; 22.34% and n=119; 21.09% respectively). On the other hand, forearms and thighs were the areas where fewest people experienced it with 3(0.53%) and 12 (2.12%) participants respectively.

The results showed that 73.2% (n=413) of the people surveyed habitually took some form of P. E. with only 26.8% (n=151) not doing so. By gender, the numbers obtained in relation to this variable are fairly similar; women 73.4% (n=376) and men 71.2% (n=37). The statistically significant differences found between the variable for the level of physical activity and the age group 60-69 years should be noted (p= 0.002).

The fact that walking (88.6%; n=366) and keep fit (25.65%; n=106) were the most frequently indicated activities should be taken into account. Both activities, in numerous cases, were found to be related to the practice of other exercises (table 3). Only 9 people, 2.17% of the total, did any exercise distinct from those already mentioned. The correlation analysis showed that the results obtained indicate that there are no significant differences between the degree of pain and the variables of civil status and occupation (p=0.308 and p=0.222) (figure 3&4).

Moreover, both the individual's civil status and occupation yielded no significant differences in relation to the variable of the type of physical activity undertaken (p=0.449 and p=0.066) (figure 5&6). Gender was also not significant in the latter variable (p=0.0080).

However, differences were found in the variable for age group and type of physical activity (p=0.000), fundamentally due to the large number of participants who based their PA on walking. It should be pointed out that, with rare exceptions, when dealing with the older age ranges, the participants did not usually carry out any other type of PA distinct from those referred to, except in the case of walking (figure 7).

When examining the relation between occupation and type of physical activity, in all occupations (with the exception of the student), walking becomes the most common type of activity with values higher than 66% in all cases; statistically we found no significant differences between the distinct activities and occupation groups (p=0.232) (figure 8).

4. Discussion

In the first place, looking at the variable of degree of pain, 80.9% (n=456) of the participants stated that they suffered moderate pain. The data in this study agree with the findings of Bassols *et al*. (1999) and Catala *et al*. (2002) in a study with patients aged over 65. In this sense, other authors such as Weiner *et al*. (1999) and Herr *et al*. (2004) equally found a prevalence of moderate pain close to 80%, and intense pain in some 20% of the cases.

However, Gibson *et al*. (2001) indicated that in their research half of the participants suffered intense pain, while Miro *et al*. (2007) confirmed that in a population of older people 94.2% suffered chronic pain. All these data indicate the high prevalence of moderate and intense pain in old people, which has negative repercussions in carrying out the normal activities basic to daily life. It is interesting to note that the areas of the body where the participants refer with greatest frequency to intense pain are the cervical column and the knee joint. Authors like Robaina (1998) and Torreblanca *et al*. (2002) indicated that both structures usually present more degenerative problems than other areas of the body, which may explain this finding. The presence of pain does not show significant differences in socio-demographic variables (p= 0.371 in gender and age, p=0.222 in occupation and p=0.308 in civil status). It should be mentioned that the data obtained in this study do not agree with those given by Crook *et al*. (1984), Brattberg *et al*. (1989) and Bassols *et al*. (1999) when they claim that the prevalence of pain increases with age, above all in women. In any event, the fact that our study did not include a sufficient number of men has to be taken into account, and this situation has not enabled conclusive results to be drawn when comparing both genders. Dealing with the variable of physical activity, only 26.8% of the participants took no continuous physical or sporting exercise, as against 73.2% who did so regularly. Navas *et al*. (2006) obtained an even higher prevalence and Croft *et al*. (1999) found that 95% of their participants systematically undertook physical activity. On the other hand, Armadans *et al*. (1996) stated that only 50% of their participants practiced P.E. One of the reasons that people give as a main reason for not practising physical activity was that they were not accustomed to it. With respect to this fact, Gonzalez *et al*. (2008) commented that the lack of sporting tradition in rural areas was often caused by the lack of sufficient and adequate sporting facilities, the lack of sporting habits and social, working and organic factors (Alexandris *et al*., 2003; Wang *et al*., 1997). Similar values for the socio-demographic and physical practice variables were obtained for both men and women (73.4% and 71.2% respectively). The similarity of these results may be consistent with the contribution of Martinez *et al*. (2009) when he states that, although in the first stages of the lifecycle, males enjoy sporting practice more than women, on reaching old age there are a significant number of women (more than men) who incorporate weekly physical activity into their lifestyle. It may be said that in this sense that as they get older women adopt a more "sporting culture" in their lives (Puig *et al*., 2004).

Another aspect to consider in relation with physical activity is the significance found in the variable of age group (p=0.002), specifically in the 40-49 year age range, where 40.3% of people practise no P.E. These data may result from the possible influence of working in the mornings, with the limitations of space and time restricted timetables, in the regular practice of PA. This idea, however, does not accord with the findings of Jimenez-Beatty *et al*. and Graupera *et al*. who observed greater indices of P.E. in morning hours.

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Equally, no significance was found between civil status and occupation in relation to physical activity (p=0,449 y p=0,066). The retired, the unemployed and housewives had the highest values, over 71%, for taking exercise (the group of students is not mentioned as there was only one representative), fundamentally due to their having more free time available, so coinciding with what Jimenez-Beatty *et al*. (2007) had said previously. Among the 413 participants who routinely took physical activity, walking was the most practised activity, both alone and combined with another type. 88.64% of the participants analysed did this type of PA (above all, people in the 80-89 year-old age range -90%-); this figure is higher than that given by Molero *et al*. (2002) and Valero *et al*. (2007). This suggests that the practice of walking makes it possible to carry out a non-aggressive, aerobic type of exercise, with social benefits, where the participants choose the time and place for doing it (Wang, 1997). Here Almeria's excellent climate is also a factor that encourages and predisposes people to practise open air activities. Looking at the variable of keep fit, we found it is practised by 25.65% of the population as an exercise by itself or in combination with others (18.63%), agreeing with the findings of Garcia (2006). One of the reasons why the people in this study practised this sport (notably housewives with 32.6%), may be due, among other things, to its enjoyable character and previous medical advice (Barnett *et al*., 2009). This type of activity may delay the natural degenerative processes of the organism (Wark, 1996; Delgado *et al*., 2009). When considering the variables of the degree of pain and the type of physical activity there are very significant statistical differences (p=0,019). Thus, of the 456 individuals who referred to distinct forms of pain, only 29.16% (n=133) undertook no physical activity, while of those who claimed to have no pain (n=108), 16.66% (n=18) admitted doing no P.A;

these data show the lack of any connection between pain and the practice of P.A, since both groups (those who referred to pain and those who did not) there were similar percentages for the practice of physical activity; however, we found the lack of this association is determined by the high number of participants who chose walking as against other physical-sporting activities.

5. Conclusions

- 80.9% of the target population studied suffered from generalized pain, with the knees and the cervical zone being the most affected structures. Therefore, it seems evident that it is necessary to design programmes of physical exercise with positive and efficient effects on health, adapted to each individual, to lessen the painful symptoms associated with old age.
- 73.2% of the population carries out physical-sporting activities, above all walking. This significant datum highlights the need and the interest in the creation of new sporting infrastructures that promote other physical activities; the information obtained indicates that walking is probably not an adequate activity for all participants.
- The lack of a relationship between the degree of pain and the level of physical activity must be emphasized. This datum confirms even more the need to adapt the type and form of exercise to the individual needs of each person. Furthermore, it should be understood that the degree of pain is a variable that is not totally determined by whether or not a person practises P.E. In this case, in relation to the previous conclusions, we would stress the importance of the development of protocols and action programmes with a multidisciplinary and holistic perspective.

Acknowledgements

I like to thank Mr. S. Ganesh Pandian, coordinator and Lecturers of Physiotherapy Department, Masterskill university college, Sabah, Malaysia for their Support and Co operation to initiate this Research work.

References

Alexandris, K., Barkoukis, V., Tsorbatzoudis, H., & Grounios, G. (2003). A study of perceived constraints on a community-based physical activity program for the elderly in Greece. *Journal of Aging and Physical Activity,* 11,305-318.

Armadans, I., Cruz, A., & Franco, N. (1996). Recreational sports activity and the elderly: some criteria to boost demand management Monographs Their Psycho / Socio / Environmental. Barcelona: *University of Barcelona* Barcelona Publications, 140-45.

Barnett, L., Green, S., Van Beurden, Campbell, E., & Radvan, D. (2009). Older people playing ball: What is the risk of falling and injury. *Journal of Science and Medicine in Sport,* 12, 177-184.

Bassols, A., Bosch, F., Campillo, M., Canellas, M., & Bains, HS. (1999). An epidemiological comparison of pain complaints in the General Population of Catalonia (Spain). *Pain*, 83, 9-16.

Blair, SN. (1984). *Behavioral health: A handbook of health enhancement and disease prevention.* Edit: John Wiley & Sons: New York.

Brattberg, G., Thorslund, M., & Wikman, A. (1989). The prevalence of pain in a general population. The results of a postal survey in a county of Sweden. *Pain,* 37, 215-222.

Brewer, KP., poffley, JK., & Pederson, EB. (1995). Travel interest among special seniors: continuing care retirement community residents. *Journal of Travel & Tourism Marketing*, 4, 93-98.

Bruce, R. (1984). Exercise, functional aerobic capacity and aging, another view point. *Med. Sci. Sport Exercise*. 16:8.

Canellas, A., & Rovira, J. (1995). Sporting habits of the adult population Barcelona(15-59 years). Apunts: *Physical Education and Sport*, 42, 75-79.

Carbonell, P. (1994). Study: Senior Citizens i the Consum. The. European Conference of them consumidors persones grans com. *Generalitat de Catalunya, Institut Catala Consumption*.

Castel, A., Miro, J., & Rull, M. (2007). The BS-21 pain scale: preliminary reliability data on STIs and Validity for Assessing pain intensity in geriatrics. *Rev Soc Esp Pain*, 14, 274-283.

Catala, E., Reig, E., Artes, M., Aliaga, L., Lopez, Js., & Segu, Jl. (2002). Prevalence of pain in the Spanish population: telephone survey in 5,000 homes. *Eur J Pain,* 6,133-140.

Cockerell, N. (1993). Market Segments. *Travel & Tourism Analyst*, 4, 37-56.

Costil, D., & Wilmore, J. (1998). *Physiology of Exercise and Sport*. Edit. Paidotribes. Barcelona.

Crook, J., Rideout, E., & Browne, G. (1984). The prevalence of pain complaints in a general population. *Pain*, 18, 299-314.

Delgado, O., Martin, MA., Zurita, F., & Antequera, JJ., & Fernandez, M. (2009). Upgradability flexor Educational Capacity by gender and level. *Esport Apunts Med.*, 161, 10-7.

Fernandez, R., Fornieles, I., Muyor, JM., & Suarez, JD. (2008). *Theoretical considerations and empirical dementia and / or Alzheimer's disease: chronic pain in elderly people*. Edit. University of Almería: Almería.

Future of Population in Asia: Asia's Aging Population. *www.eastwestcenter.org/fileadmin/ stored/.../FuturePop08 Aging.pdf.*

Garcia, M. (2006). *Postmodernism and Sport*: Among the individualization and massification. Spanish sporting habits Survey of 2005. CSDCIS. Madrid, 2006.

Gibson, SJ., & Helme, RD. (2001). Age-related differences in pain perception and report. *Clin Geriatr Med*., 17, 433-456.

Gonzalez, MD., Martin, M., Jimenez-Beatty, JE., & Campos, A. (2008). Physical Activity Needs of Older People in Spain. Differences by social status. *Motor Skill Rev*., 31, 16-24

Graupera, JL., Martínez Del Castillo, J., & Martin, B. (2003). Motivations, attitudes and habits of physical activity in Older Women. *ICD Research Series Sports Science*, 35:181 - 222.

Gutierrez, A., Delgado, M., & Castillo, M. (1997). *Physical training - sports and nutrition*. From childhood to adulthood. Edit. Padiotribo: Barcelona.

Hagberg, JM., Moore, GE., & Ferrell, RE. (2001). Specific genetic markers of endurance performance and VO2max. *Exercise and Sport Science Reviews,* 29, 15-19.

Hernandez, E. (2008). Physical activity in old age: geriatric parks. Readings: *Physical Education and Sports*, 13.

Herr, KA., & Garand, L. (2001). Assessment and measurement of pain in older adults. *Clin Geriatr Med,* 17, 457-478.

Herr, KA., Spratt, K., & Mobily, PR. (2004). Pain intensity assessment in older adults. Use of experimental pain to compare psychometric properties andusability of selected pain scales with younger adults. *Clin J Pain*, 20, 207- 219.

Jimenez-beatty, JE., Graupera, Jl., Martínez del Castillo, J., Martin, M., & Campos, A. (2007). Motivational factors and physicians' advice in physical activity in the older urban population. *Journal of Aging and Physical Activity*, 15, 241-256.

Jimenez-Beatty, JE., Graupera, JL., & Martinez, J. (2003). Sporting Habits and Demands of Older Women in the Municipality of Madrid. *ICD Series of Sport Science Research*, 35, 223-253.

Lamb, DR. (1985). *Exercise Physiology. Responses and adaptations*. Edit Augustus. Web Stack: Madrid.

Mafauzy Mohamed. (2000). The Problems and Challenges of the Aging Population of Malaysia. *Malaysian Journal of Medical Sciences,* 7, 1-3.

Martinez, J., Jimenez-Gonzalez, JE., Beatty, MD., Graupera, JL., Martin, M., Campos, A., & Iron, D. (2009). Physical activity habits of Older Women in Spain. *International Journal of Sports Sciences*, 14, 81-93.

Mcardle, W. (2002). *Exercise physiology: energy, nutrition and human performance*. Edit. Williams and Wilkins: Baltimore.

Medina, J. (1997). *The Clock of Ages*. Edit. Drakantos: Barcelona.

Miro, J., Paredes, S., & Rull, M. (2007). Pain in older adults: a prevalence study in the Mediterranean region of Catalonia. *Eur J Pain,* 11, 83-92.

Molero, JJ., & Guillen, M. (2002). Physical Activity and musculoskeletal disorders in the elderly: A Population Study of 65 of between 60 and 85 years. In A. Merino, R. Castillo, J. Vazquez and P. Montiel (coords.) Proceedings of First International Congress on Physical Activity and Sport for Older People. *Perspectives of Sport, Leisure and Health in Old Age* [CD ROM]. Junta de Andalucía: Malaga.

Navas, FJ. (2006). Fernandez De Santiago FJ, Bayonne I. Prevalence of osteoporosis in Institutionalized elderly, using Calcaneal ultrasound. *Ann Internal Med*, 23, 374-378.

Puig, N., & Soler, S. (2004). Women and sports in Spain: state of the issue and Proposed interpretation. *Apunts Physical Education and Sports*, 76, 71-78.

Robaina, FJ. (1998). Cervical Sprain. General Characteristics and Medical Aspects of law. *Rev Soc Esp Pain*, 5, 214-223.

Saltin, B. (1990). *Aging, health and exercise performance*. Provost Lecture Series: Ball State University.

Torreblanca, R., Quintana, A., & Rosales, A. (2002). Influence of Exercise in the elderly. Junction area of the baths, 2001-2002. *Medisan*, 6, 49-53.

Valero, A., Gomez, M., Ruiz, F., Garcia, ME., & Cabrera, A. Comparison of physical and sporting Activities by Older Adults During Their free time in Almería (Spain) and Havana (Cuba). [Online] Available: *Http://www.aiesepguadalajara2007.com/ponencias/Trabajos% 20Libres/Activida 20Fisica% d% 20and% 20Health/Comp. 20Esp%%% 20Cub 20Valero.doc.*

Wang, Z., & Olson, E. (1997). Present status, potential and strategies of physical activity in China. *International Review for the Sociology of Sport,* 32, 69-85.

Wark, J. (1996). Osteoporotic fractures: background and prevention strategies. *Maturitas*, 23,193-207.

Weiner, D., Peterson, B., & Ladd, K. (1999). Pain in nursing home residents: an exploration of prevalence, staff perspectives and practical aspects of measurement. *Clin J Pain*, 15, 92-101.

Zurita, F., Ruiz, L., Martinez, A., Martin, MA., & Fernandez, R. (2008). Flexor appraisal of the Capacity of Primary School Children in the province of Granada by the application of deep flexion test. *Motor Skill Rev*., 31, 25-32.

Table 1. Degree of pain according to gender and age (p=0.371).

Gender		**Present Pain**	**Age Range**					
			40-49 Years	**50-59 Years**	**60-69 Years**	**70-79 Years**	**80-89 Years**	**TOTAL**
Male	Yes	Number	4	6	10	16	3	39
		% presently in pain	10.3%	15.4%	25.6%	41.0%	7.7%	100%
	No	Number	1	0	6	4	2	13
		% presently in pain	7.7%	0.0%	46.2%	30.7%	15.4%	100%
Female	Yes	Number	96	83	116	103	19	417
		% presently in pain	23.0%	19.9%	27.8%	24.7%	4.6%	100%
	No	Number	23	15	30	23	4	95
		% presently in pain	24.2%	15.8%	31.6%	24.2%	4.2%	100%

Table 2. Distribution of the degree of pain in the population

Degree of pain	Frequency	Percentage
Pain-free	6	1.2%
Almost without pain (2)	11	2.4%
Some pain (3)	19	4.2%
Almost moderate pain (4)	19	4.2%
Moderate pain (5)	167	36.6%
Rather more than moderate pain (6)	29	6.4%
Almost intense pain (7)	54	11.8%
Intense pain (8)	55	12.1%
Almost very intense pain (9)	25	5.5%
Very intense pain (10)	71	15.6%
Total	456	100%

Table 3. Distribution of the variable of level of physical activity in relation to age range. (p=0.002)

Physical activity	Present Pain	Age Range					
		40-49 Years	50-59 Years	60-69 Years	70-79 Years	80-89 Years	TOTAL
YES	Number	74	75	130	114	20	413
	% presently in pain	59.7%	72.1%	80.2%	78.1%	71.4%	73.2%
NO	Number	50	29	32	32	8	151
	% presently in pain	40.3%	27.9%	19.8%	21.9%	28.6%	26.8%
Total	Number	124	104	162	146	28	564
	% presently in pain	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

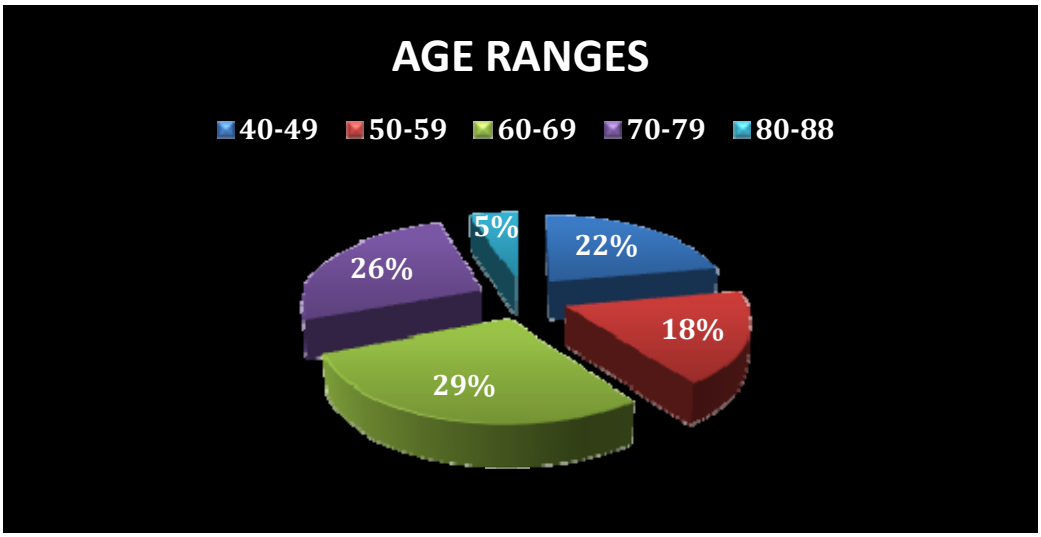

Figure 1. Percentage of participants by age range

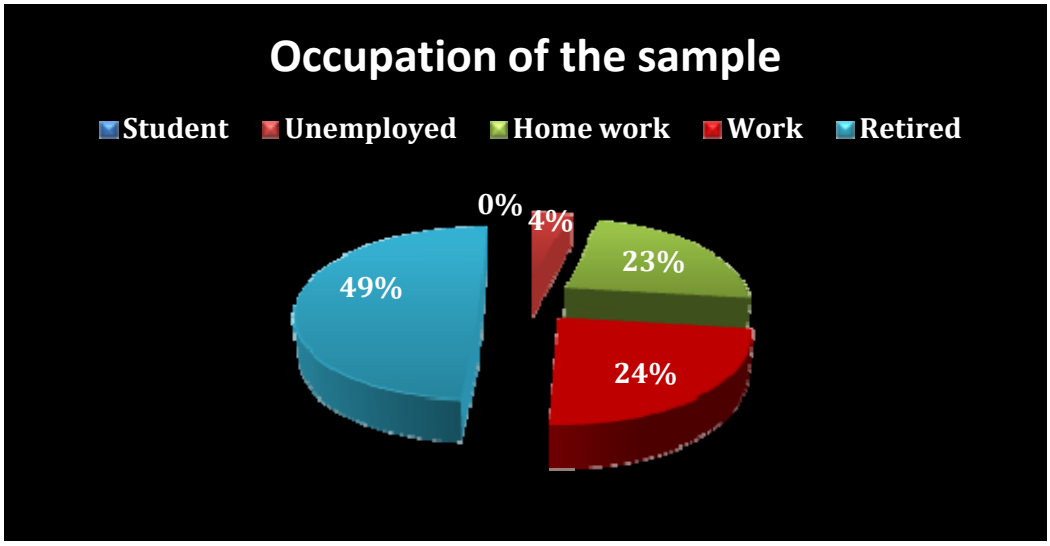

Figure 2. Occupation of the sample

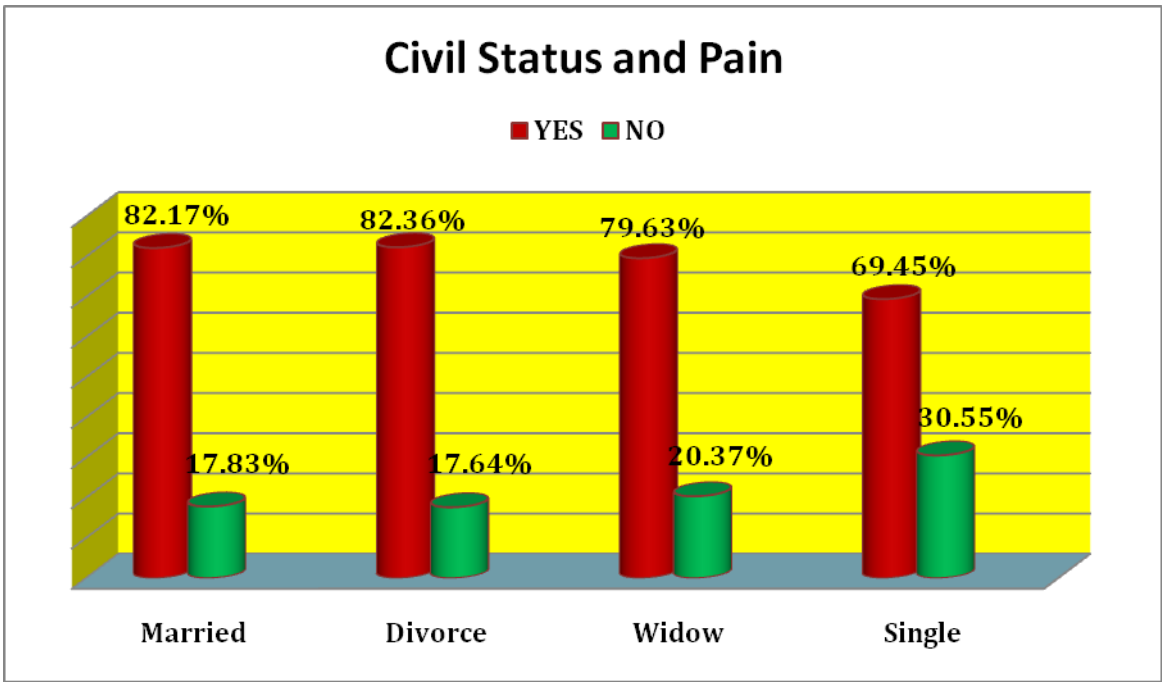

Figure 3. Civil status in relation to pain

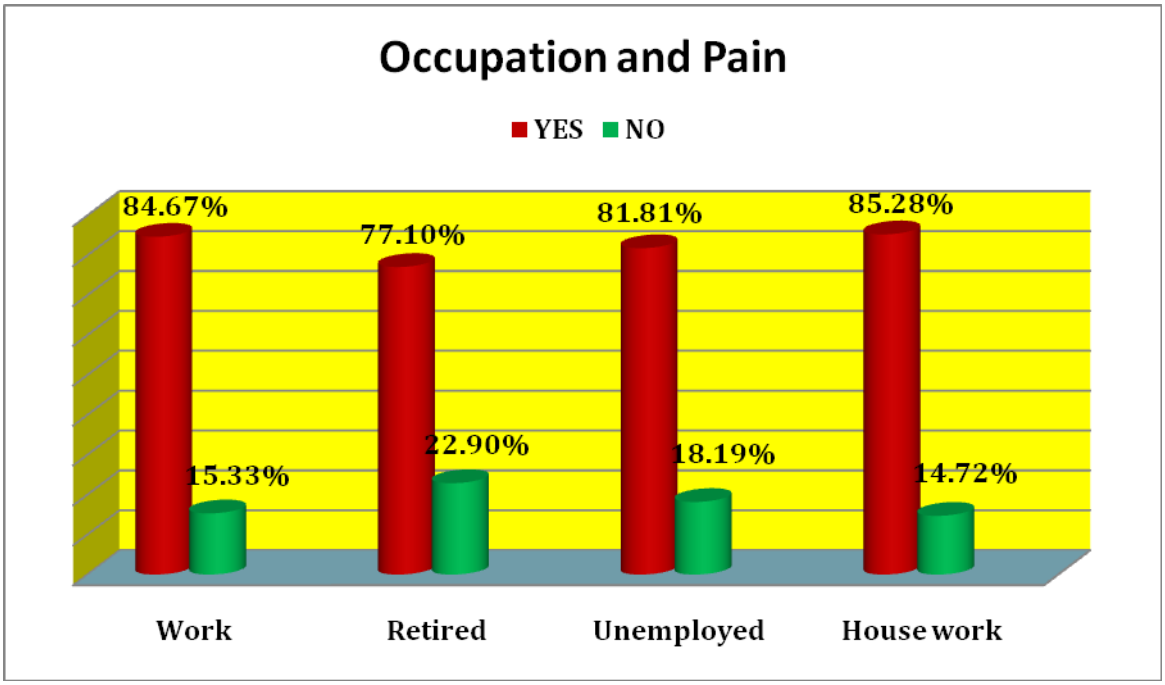

Figure 4. Occupation in relation to Pain

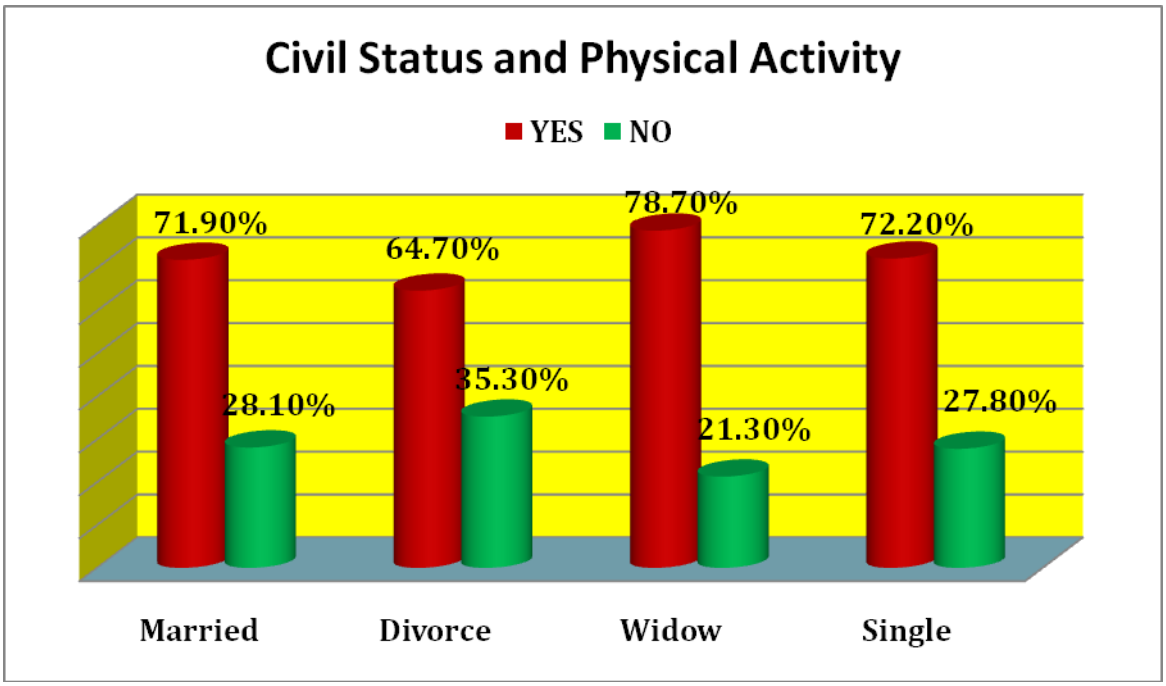

Figure 5. Civil status in relation to Physical Activity

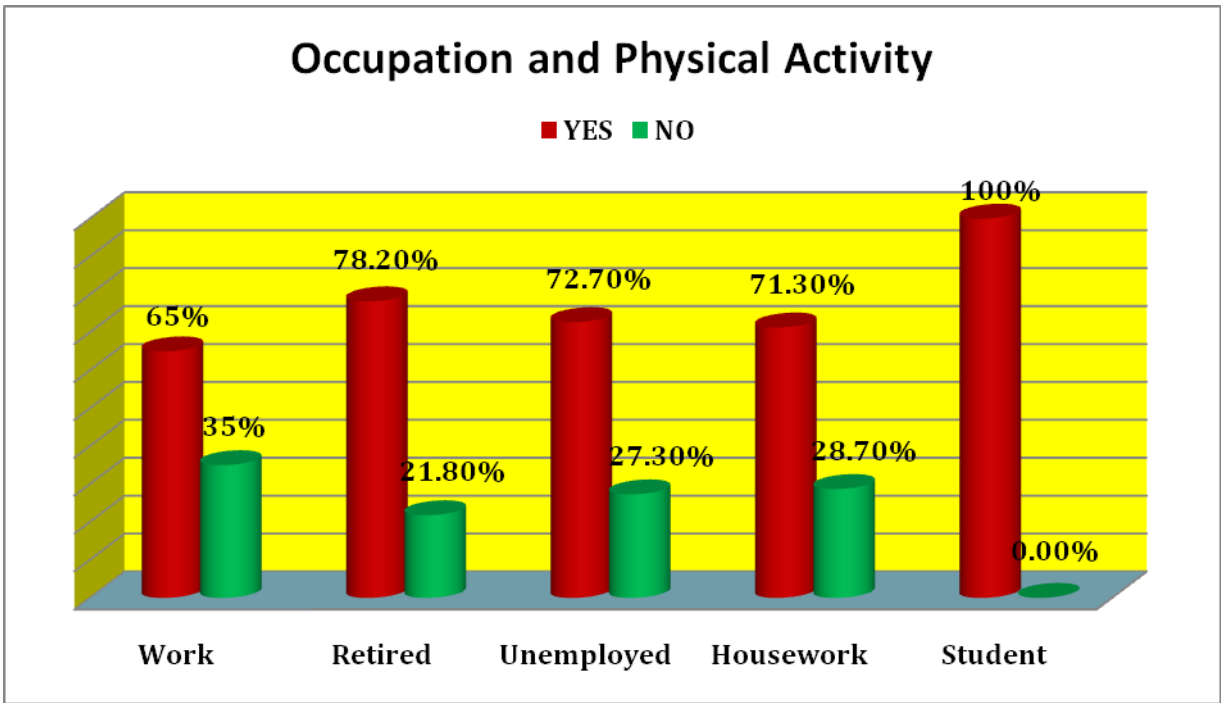

Figure 6. Occupation in relation to Physical Activity

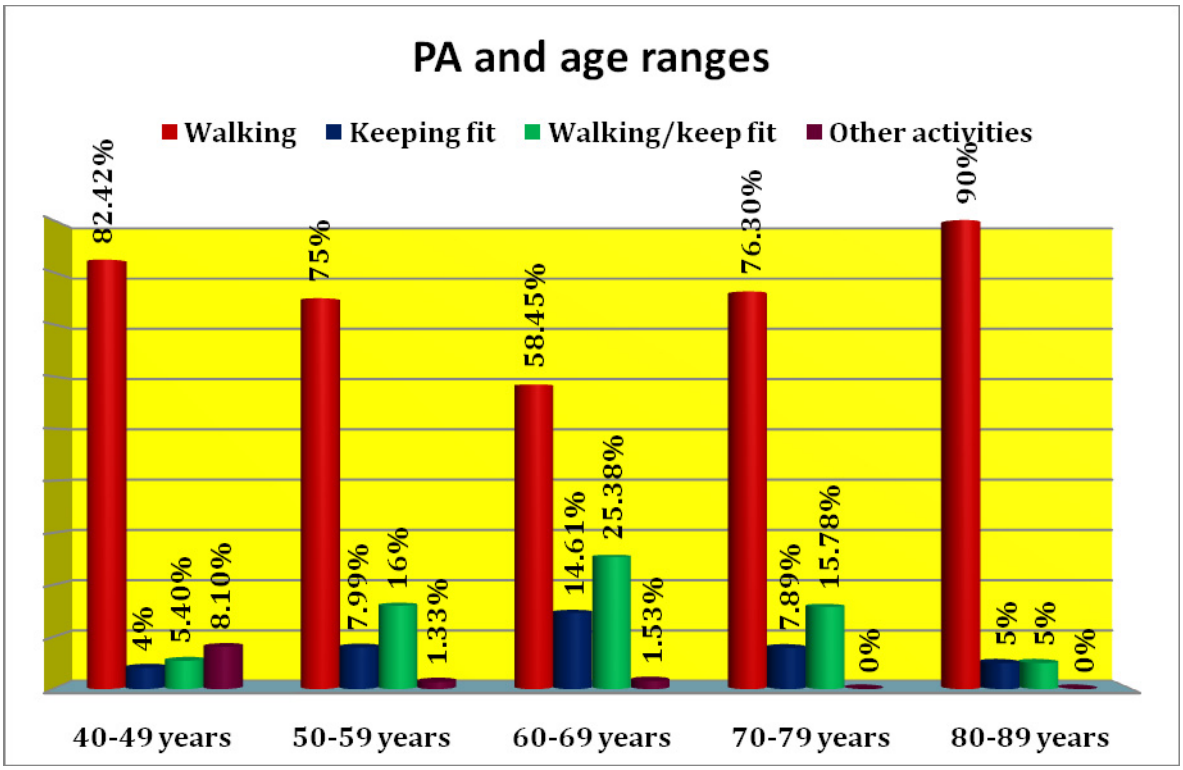

Figure 7. Physical Activity in relation to Age range

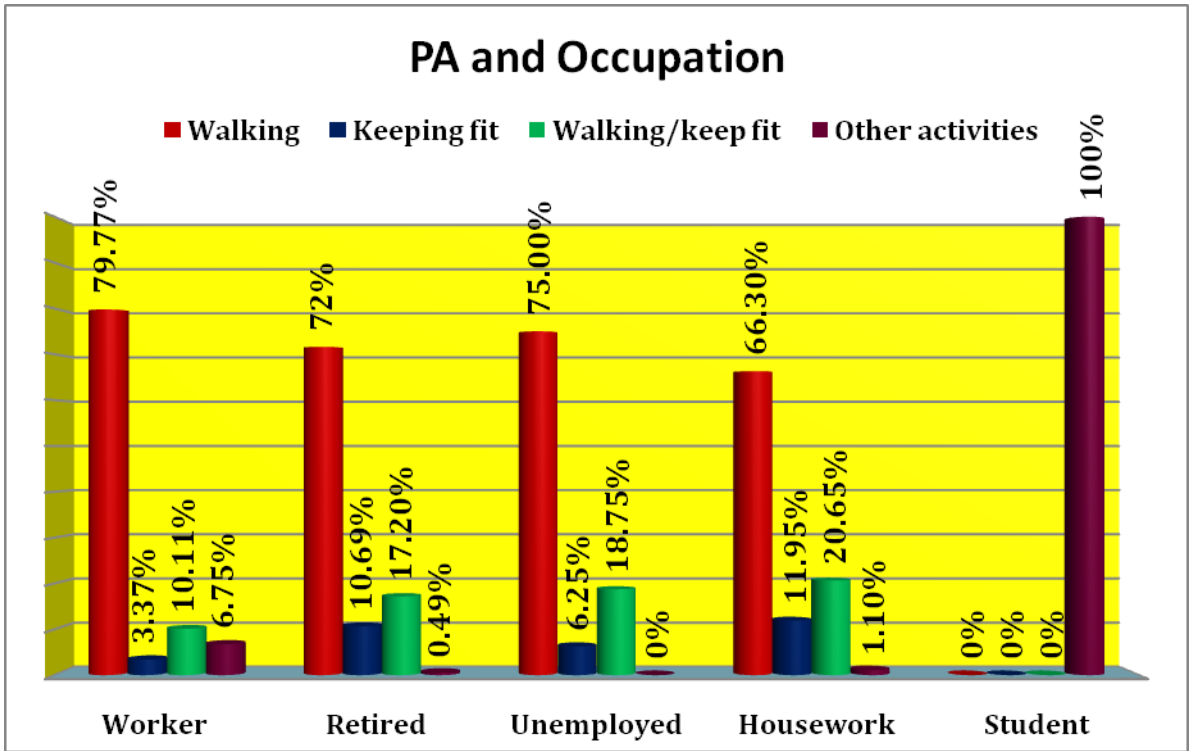

Figure 8. Physical Activity in relation to Occupation