

## PHYSICAL EXERCISE ACCORDING TO NURSING STUDENTS' PERCEPTIONS<sup>1</sup>

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*This study aimed to get to know the perceptions of undergraduate students from the University of São Paulo College of Nursing about physical exercise as an instrument to maintain health and well being. Data were collected through the application of a questionnaire in class, involving 122 undergraduate students. In this group, 52.23% believed that physical exercise should only be recommended to people with health problems. Only 8% thought that exercise can prevent diseases, and only 6.61% uses protection equipment. Therefore, we concluded that nursing students need to be better prepared to be able to intervene correctly as professionals.*

DESCRIPTORS: motor activity; nursing; health

## ACTIVIDAD FÍSICA SEGÚN LA PERCEPCIÓN DE ESTUDIANTES DE ENFERMERÍA

*La finalidad de este estudio fue conocer la percepción de alumnos de pregrado de la Escuela de Enfermería de la Universidad de Sao Paulo sobre la práctica de actividad física para mantener la salud y el bien estar. La recolecta de datos fue realizada mediante la aplicación de un cuestionario en aula y participaron 122 estudiantes. En este grupo, el 52,23% cree que la actividad física tiene que ser recomendada solamente a las personas con alteraciones de la salud. Sólo el 8% de ellos cree que sea capaz de prevenir enfermedades. La conclusión es que hay necesidad de mejor preparación de los alumnos, con vistas a la eficacia de sus intervenciones cuando profesionales.*

DESCRIPTORES: actividad motora; enfermería; salud

## ATIVIDADE FÍSICA SEGUNDO A PERCEPÇÃO DOS ESTUDANTES DE ENFERMAGEM

*Este estudo teve como objetivo conhecer a percepção do aluno de graduação da Escola de Enfermagem da Universidade de São Paulo sobre a prática de atividade física para a manutenção da saúde e do bem-estar. A coleta de dados se deu mediante a aplicação de um questionário em sala de aula, tendo participado do estudo 122 alunos. Nesse grupo, 52,23% acreditam que a atividade física deve ser recomendada apenas para quem apresente alterações de saúde. Apenas 8% deles acreditam na prevenção de doenças através da prática de atividade física e, ainda, e apenas 6,61% fazem uso de equipamentos de proteção. Diante dos resultados, conclui-se que há necessidade de melhor preparação dos alunos durante a graduação, para que esses, possam intervir efetivamente quando profissionais.*

DESCRITORES: atividade motora; enfermagem; saúde

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## INTRODUCTION

Urbanization, lack of public areas, fear of violence and technological facilities that suppress the primary function of life, which is locomotion, have been causing what we can call "hypokinetic" diseases. Sedentariness is the most prevalent risk factor in the Brazilian population, much higher than other risk factors like smoking, arterial hypertension, obesity and alcoholism.

The need to adopt healthy living habits has been disseminated in society, as illustrated by the increased demand and attendance of sports facilities, public areas for physical activity, sports clubs and gyms. This reveals the emergence of a new area, which we should pay attention to, in order to identify and, mainly, identify this "new" client, who practices physical activity, and the athlete, who practices sports for professional or leisure purposes <sup>(1)</sup>.

Even if we have not perceived this yet, this client is already part of nursing professionals' daily reality, as we routinely advise people who at least practice physical activity. We should reflect on this clientele and ask ourselves if we are prepared to offer this care, as these persons lack not only care, but mainly prevention of musculoskeletal injuries <sup>(1)</sup>.

And what is self-care like? We need to reflect on health maintenance and the benefits of physical activity in terms of self-care.

Nursing students at the University of São Paulo (USP) are mainly young people, deeply involved in their joviality and, hence, physical productivity. They also display a great sense of initiative, a characteristic that joins and organizes other young people for the sake of sports activities in nursing.

These students' expression with respect to sports practice and physical activity gives rise to the question about these abilities directed at health promotion.

## OBJECTIVES

**General:** Get to know undergraduate nursing students' perception about practicing physical activity to maintain health and well-being; **Specific:** Characterize undergraduate nursing students in terms of age, gender, ethnics, city of origin, current occupation, physical activity practice, occurrence of physical, visual and/or hearing alterations and/or

deficiency; Identify musculoskeletal injuries suffered and reported by students as a result of physical activity, treatment and prevention; Verify the participation of physically, visually and/or hearing-impaired students in physical activity and/or sports.

## METHOD

### Study type

We carried out an exploratory and descriptive study with a quantitative approach.

### Sample and site

The sample consisted of 122 of the 352 students who were regularly enrolled in the Undergraduate Nursing Course at the University of São Paulo College of Nursing, who were willing to participate in the study after receiving clarifications by means of a responsibility term, which presented information about the research, with explanations written in accessible language, guaranteeing secrecy and the student's anonymity, as well as the student's freedom to participate in the study.

### Data collection procedures

Data were collected through the application of a questionnaire in class, after approval by the Research Ethics Committee at EEUSP and authorization by the dean's office. The questionnaire consisted of three parts, the first of which contained sociodemographic data for sample characterization. In the second part of the instrument, we examined data related to physical activity. Musculoskeletal injuries, their treatment and prevention were investigated in the third part.

## RESULTS AND DISCUSSION

### Study subjects

The study participants were between 18 and 37 years old and mostly came from São Paulo City (60.66%). Only 18.85% reported that, besides taking the undergraduate program, they also worked. And, as expected, due to the fact that nursing is still a

predominantly female profession nowadays, 91.8% of the participants were female.

Some students mentioned physical, hearing and visual alterations and/or impairments. Visual alterations and/or impairments stand out, indicated by 40.98% of participants; 18.85% of these only referred to myopia, while 12.29% indicated myopia and astigmatism.

Conception of physical activity and its practice as a way to maintain health and well-being

In total, 62.35% of students conceptualized physical activity as the practice of physical exercise or any other activity involving body movement, with physical effort and energy consumption. Moreover, 24.69% of students also considered physical activity as an activity that is beneficial to health and promotes self-care.

Physical activity can be defined as: "any body movement produced by the skeletal muscles that results in energy consumption"<sup>(2)</sup>.

Epidemiological and experimental studies evidence a positive relation between physical activity and decreased mortality, also suggesting a positive effect on the risk of cardiovascular diseases, plasma lipid profile, bone density maintenance, reduced back pain and better perspectives in the control of chronic respiratory diseases. Moreover, positive effects have been reported in primary or complementary treatment of arteriosclerosis, peripheral venous disease and osteoporosis, as well as short-term psychological benefits, decreased anxiety and stress and, in the long term, alterations in moderate depression, mood state, self-esteem and positive attitudes<sup>(3)</sup>.

When inquired about the population for which physical activity is indicated, 72.95% answered that only male and female children, adolescents, adults and elderly could practice physical activity, while a minority of merely 27% believed that, besides the mentioned population, others could also exercise, including pregnant women; people with physical, hearing, visual and mental disabilities, besides chronically-ill and hospitalized patients.

Students attributed the following benefits to physical activity: improved physical (62%) and mental conditions (20%), disease prevention, improved quality of life and increased physical and mental form.

Scientists increasingly emphasize the need for physical activity to be a fundamental part in global

health promotion programs. The Centre for Disease Control and Prevention (CDC) in the United States and the American College of Sports Medicine (ACSM) recommend 30 minutes of moderately intense physical activity, practiced either continuously or interruptedly, on most weekdays<sup>(4)</sup>.

Table1 - Distribution of undergraduate nursing students' answers according to recommendations for practicing physical activity. São Paulo, EEUSP, 2004

Recommendations	Answers	
	N	%
Present health alterations (obesity, cardiac and respiratory problems, chronic and metabolic diseases, chronic musculoskeletal diseases, back problems, arterial hypertension)	35	52,23
Disease prevention	8	11,94
Weight loss	5	7,46
Stress reduction and relaxation	5	7,46
Present physical, hearing and visual impairments	4	5,97
Be healthy	3	4,48
Sedentariness	3	4,48
Not presenting impairment	2	2,99
Everybody should exercise	2	2,99
<b>Total</b>	<b>67</b>	<b>100</b>

According to literature, the main beneficial effects of physical activity and exercise are anthropometric and neuromuscular, such as decreased body fat and increased muscle mass, muscle strength and bone density, strengthening of connective tissue and increased flexibility; metabolic effects like increased systolic volume, decreased heart frequency at rest, increased aerobic potency, increased pulmonary ventilation, decreased arterial pressure, improved lipid profile and improved sensitivity to insulin; and psychological effects, such as improved self-concept, self-esteem and body image, decreased stress and anxiety, improvements in muscle tension and insomnia, decreased medication consumption and improved cognitive functions and socialization<sup>(5)</sup>.

There is countless scientific evidence of the effects of physical exercise, physical activity and training on anthropometric, neuromotor and metabolic variables during aging, as well as their effects on elderly persons' mental health. Thus, physical activity has been considered as a fundamental aspect of lifestyle with a view to promoting healthy and successful aging.

"In the aging process, increasing physical activity is fundamental to control weight and body fat, and can also contribute to the prevention and control of some clinical conditions associated with these factors, such as cardiovascular diseases, diabetes,

hypertension, cerebrovascular accident, arthritis, sleep apnea, impaired mobility and increased mortality"<sup>(6)</sup>.

Other benefits of muscle strength training in old age are: improved walking speed, improved balance, increased level of spontaneous physical activity, improved self-efficacy, contribution to the maintenance and/or increase of bone density, improved diet ingestion and decreased depression<sup>(6)</sup>. All of these benefits, resulting from the adequate training of the aging skeletal muscles, lead to an increase in the capacity to perform activities of daily living, thus contributing to the elderly person's functional independence, providing a better quality of life and healthy aging.

Moreover, physical exercise contributes to the prevention of falls, through different mechanisms: "strengthening of leg and back muscles, improved reflexes, improved motor synergy of postural reactions, improved walking speed and increased flexibility, body weight maintenance, improved mobility and decreased risk of cardiovascular disease"<sup>(6)</sup>.

The benefits of practicing physical activity across the lifecycle have been acknowledged, including during pregnancy. Nowadays, some types of physical activity, such as light exercises in the water, walking and yoga already stand out among pregnant women. If regular, moderate and controlled as early as the start of pregnancy, physical activity promotes benefits for maternal as well as fetal health. Among benefits, literature highlights the prevention and reduction of back, hand and foot pains and cardiovascular stress, strengthening of pelvis muscles, less premature births and cesarean sections, greater flexibility and tolerance to pain, weight gain control and increased self-esteem for pregnant women. In the fetus, increased weight at birth and improved nutritional condition were observed.

The advantages of physical activity during pregnancy also extend to emotional aspects and contribute to turn the pregnant woman increasingly self-confident and satisfied with their appearance, with high self-esteem and greater satisfaction in exercising.

Physical activity during pregnancy decreases delivery pains and contributes to improved pain tolerance among physically active pregnant women, mainly during extended deliveries, in comparison with untrained women or women who only exercise sporadically<sup>(7)</sup>.

The American College of Obstetricians and Gynecologists recommends physical activity of regular

and moderate intensity during pregnancy, such as the program directed at the woman's gestational period, with activities centered on her health conditions, on her physical exercise experience and on the demonstration of interest and need<sup>(7)</sup>.

The main signs to stop physical activity are loss of amniotic fluid, chest pain, vaginal bleeding, headache, dyspnea, edema, back pain, nausea, abdominal pain, uterine contractions, muscle weaknesses, dizziness and decreased fetal movements. Physical activity is absolutely contraindicated for pregnant women who suffer from cardiac disease, with significant hemodynamic alterations, restrictive obstructive pulmonary disease, multiparous women with risk of prematurity, placenta previa after 26 weeks of pregnancy, membrane rupture, persistent uterine bleeding in the second or third trimester, incompetent cervix and preeclampsia<sup>(7)</sup>.

Another study demonstrated that physical exercises strongly contributed as part of a post-mastectomy rehabilitation program.

Women who participated in the program mentioned benefits of physical activity related to the physical dimension, such as improved arm and shoulder movement, prevention of lymphedema and muscle strengthening; as well as emotional benefits, such as improved form, energy, stress and sleep pattern<sup>(8)</sup>.

The benefits of physical activity are temporary and can only be maintained if the person regularly and consistently involves in exercise. This suggests that better effects can be reached if physical activity starts in childhood and continues during the lifetime. Thus, habits and attitudes acquired during this period influence behavioral patterns during future life and, consequently, morbidity and mortality profiles<sup>(2)</sup>.

For children and adolescents, an active lifestyle benefits their growth and development. Besides health benefits, physical activity provides leisure and socialization, contributing to the acquisition of aptitudes and raising self-esteem and confidence.

Despite the acknowledgement of physical, social and psychological benefits of regular physical activity, it has been observed that, although children still represent the physically most active group, activity levels in this age range have decreased.

Reasons for this increase in inactivity patterns include the rise of television, VCR, computer games, increased traffic and parents' rising fear to

let their children stay behind unaccompanied<sup>(9)</sup>. If physical activity standards are determined during childhood, then this decrease in children's activity levels is a great source of concern, both in terms of the present and in terms of these children's living standard as adults.

As to the physical activity of students in this study, we observe the predominance of individual over collective sports modalities. Individual modalities like swimming, walking, weight training, yoga, dancing, fighting, among others, correspond to 80.85% of answers, while collective sports like futsal, handball, basketball and volley represent only 17.02%.

Most students mentioned practicing physical exercise twice a week, for one to two hours, at the University's sports center. It was also evidenced that most students had only been practicing physical activity in the last year, showing that this is not a long-term habit.

When we asked sedentary students about the reasons for not practicing any kind of physical activity, most of them alleged lack of time for exercising (64.04%). Moreover, 22.47% did not express the desire to start practicing a physical activity and 11.24% indicated that the motive for the absence of exercise in their daily life was lack of money. This is probably due to the conception that physical activity should be practiced in gyms, dancing or fighting schools and under the supervision of a specialized technician. In this group, 53.95% mentioned that the lack of physical activity makes them feel out of shape and 18.42% felt guilty about the situation. Only 17.1% reported that they missed practicing physical activity, while 10.53% said they felt very well despite the absence of exercise.

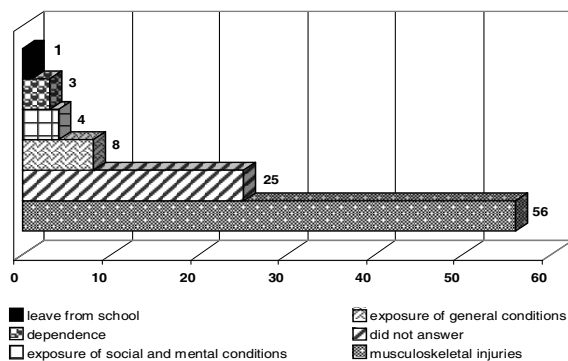


Figure 1 - Distribution of answers by undergraduate nursing students according to harm caused by physical activity. São Paulo, EEUSP, 2004

Musculoskeletal injuries as a consequence of physical activity and self-care

Students mentioned the following most frequent injury types, suffered during the last four years: strains and dislocation, totaling 25% and 17.86% of declared injury types, respectively. Among students who were victims of injuries, 57.69% sought medical help and 7.69% treated their injuries themselves. The treatments students most frequently used were immobilization (26.47%), use of anti-inflammatory agents (20.59%) and physiotherapy (17.65%), as well as other treatment modes like cryotherapy, rest, compression and lukewarm water compresses.

Most students (27.94%) believed that the best way to prevent musculoskeletal injuries is to respect one's own limits, followed by the importance of stretching (18.63%), technical accompaniment (12.25%) and use of protection equipment (11.27%). Only 0.49% mentioned the use of immobilization.

Preventing sports injuries is probably the most important aspect in any athletic program. Sports-related injuries can be avoided by correct equipment use and by effective body training and conditioning. Specific training obviously needs to be adapted to the person and type of sport. In general, warm-up routines include walking or running for about five minutes, followed by slow and gradual stretching. Stretching is maintained for 10 to 20 seconds before relaxation, after which stretching is repeated. Preparing the body for sports activities increases flexibility and decreases the incidence of strains and sprains. After exercising, the body needs to cool down in order to avoid cardiovascular problems, such as hypotension, syncope and arrhythmias. Activity and stress alterations should occur gradually<sup>(10)</sup>.

For children, measures like pads, boards, bandages and other devices must be used to protect risk areas<sup>(11)</sup>.

Due to the need to extend athletes' longevity, the more frequent therapeutic indication of physical activity and the rising number of people who want these benefits, prevention aspects should be increasingly prioritized by sports health professionals<sup>(12)</sup>.

Despite knowing about the existence of prevention forms, 12.4% of students did not realize any preventive action and, as opposed to what is mentioned above, only 6.61% of them use protective equipment. The most frequent actions are warming-up and stretching, practiced by 28.93% of students.

## CONCLUSIONS

We conclude that, according to the answers given by the 122 students in the study sample:

- as to sample characterization - the predominant age range was between 18 and 37 years; 91.8% of students were female; 60.66% come from São Paulo City; 18.85% take the undergraduate program and work; 40.98% mentioned physical and sensorial alterations;
- as to the student's perception of physical activity - 24.69% of the respondents consider that physical activity is beneficial to health; according to 72.95%, male and female children, adolescents, adults and elderly can practice physical activity; 27% of students believe that pregnant women and people with physical, mental and sensory disabilities can also practice physical activity; 52.23% of students recommend physical activity for adults and elderly with health alterations and 11.94% to prevent diseases;
- as to students' physical activity - 80.85% of answers indicated the practice of individual modalities; 53.95% mentioned feeling out of shape and 18.24% guilty about their sedentariness; 42.86% had suffered some kind of injury and 27.94% believed that respecting one's own limits and stretching are effective to prevent musculoskeletal injuries; the most mentioned treatment was the use of immobilization (26.47%).

## FINAL CONSIDERATIONS

Nursing professionals are in direct contact with health promotion actions, including through the prescription, structuring and implementation of exercise programs, whether separately or together with other health professionals<sup>(1)</sup>.

According to this study, undergraduate students at the University of São Paulo College of Nursing are quite involved in sports practices and physical activity. This fact can be considered positive as, besides countless benefits, nursing students' participation in physical and sports activities contributes to their understanding and incorporation of the concepts, benefits and damage of sports and physical activity. Moreover, they become involved in self-care. In a way, this supports the adequate training of students to attend people practicing physical activity as athletes.

Hence, the Undergraduate Nursing Course should incorporate contents related to physical activity and sports into its curriculum, as a way of maintaining health and well-being. We also believe that it is important to stimulate and incorporate physical activity and sports in academic life.

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