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Barriers perceived to assume promoting health conduct in university students

Abstract

There are several studies on health behaviors, whose results show a predominance of unhealthy lifestyles, despite the fact that the population manages to identify the importance of them does not present them in their daily life; The question then arises of what are the barriers to not presenting healthy behaviors. The present study aims to identify perceived barriers to assume health promoting behavior in students of a Chilean University, according to the Nola Pender Health Promotion Model. Study of quantitative approach, of descriptive design, cross-sectional correlation, with sample of 320 students, selected by sampling of random probabilistic type. The data collection instrument is made up of: Scale of benefits and barriers of Exercise, Scale of barriers of healthy eating, Scale of perception of self-efficacy, Scale of self-esteem and a sociodemographic questionnaire. The data was processed with the SPSS-22 program to obtain descriptive and inferential statistics. As results, it was obtained that despite the educational level or belonging to a certain university career, the students showed poor or lower health promoting behaviors than expected; These low health-promoting behaviors are associated with perceived barriers in the nutritional field and physical activity. In addition, self-esteem and the perception of self-efficacy turned out to be predictors of the presence of barriers in health in an inverse manner, that is, to lower self-esteem or self-efficacy, greater presence of barriers to assume health-promoting behaviors.

Keywords: perceived barriers, health promotion, exercise, healthy eating, university students

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Introduction

The various studies on lifestyles show results with a predominance of unhealthy lifestyles and it has been demonstrated that certain risk behaviors can independently contribute to increased morbidity and mortality.[1] The World Health Organization, in its Report on the Global Status of Noncommunicable Diseases, reports that 23% of adults were not sufficiently active. Women were less active than men and older people were less active than younger people. Eighty-one percent of adolescents were insufficiently physically active.[2] The Center for Chronic Disease Prevention and Health Promotion showed that 24.8% of young people engage in moderate to vigorous physical activity.[3] In terms of nutrition, Pich found that 85% of college students do not eat breakfast.[4] In the university setting, there are several risk factors for eating disorders, such as depressive crises, stress and anxiety.[5] A fundamental area of health promotion, referring to environments, is found and fits with the university environment as the setting where students live most of their time.[6] In addition to the development of personal attitudes, it is here that the student's commitment is needed to develop positive health promotion behaviors.[7] The national health survey indicates that the prevalence of sedentary lifestyles in the Chilean population is 88.6% and that women are more sedentary than men.[8] In students, 54.8% presented a low level of physical activity, and active men are more motivated by the social component.[9]

In the National Survey of Physical Activity and Sports Habits 2015 in the adult population, it stands out that the practice decreases as the socioeconomic level decreases, being the most frequent reason for men to practice physical activity and sport is entertainment and for women it is "To improve my health". And the main reason for not practicing physical activity is lack of time and lack of training and habits (24.2% and 25.4% respectively).[10] In 1990, the Pan American Health Organization clarified that health promotion is increasingly conceived as the sum of the actions of the population, health services, health authorities and other social and productive sectors.[9] Thus, being aware of the barriers or risk factors allows us to identify strategies to overcome obstacles and gives us the opportunity to solve problems in advance, through promotion and alliances created between our society and health professionals.[11]

Pender's Health Promotion model states that people have the capacity for reflective self-awareness, including the assessment of their own competencies, given that individuals actively seek to regulate their own behavior.[12] This study gives importance to the evaluation that students will carry out on their behaviors, so that they in their autonomy recognize their relevance, the barriers that they perceive as limits to assume promotive behaviors and motivate themselves towards healthy lifestyles. Thus, the objective of this research is for the student to identify what he/she perceives as a barrier to not performing health-promoting behaviors. With the results, intervention strategies can be implemented to raise students' awareness in the promotion of their own health, the reduction of risk factors and the prevention of diseases.[13]

Nola Pender is recognized for her contribution to the Health Promotion Model (HPM). She proposed that promoting an optimal state of health was an objective that should take precedence over preventive actions. She identified the factors that had influenced decision making and actions taken to prevent disease.[14] Pender's MPS integrates Albert Bandura's social learning theory, which includes self-attribution, self-evaluation and self-efficacy.[15] Pender, taking the whole person as a whole being, analyzes people's lifestyles, strengths, resilience, potentials and capabilities in making decisions regarding their health and life.[16] Pender refers that there are individual characteristics and experiences that affect health actions, such as the related Prior Behavior; moreover this characteristic is important to consider since it would facilitate active behavior in mature adults

or in old age; it also raises the personal factors that are predictive of a certain behavior; in this research, age and sex are considered as personal biological factors; it is expected that as age increases, more health-promoting behaviors are presented, and according to gender there would be distributive differences in lifestyles. Other sociocultural factors are education and socioeconomic status, i.e., lower levels of academic education or a lower socioeconomic stratum would result in less health-promoting behaviors. Finally, the personal factors of psychological aspect (self-esteem), for example, a student with low self-esteem will present greater barriers to perform health-promoting behaviors.

The MPS describes certain specific knowledge of behavior and affect that are considered to be of major motivational importance, such as the activity-related affect, i.e. the positive and negative subjective feelings provoked by the behavior itself, which influence the execution and maintenance of a given health action. In the same way, knowledge about the behaviors, beliefs or attitudes of others (interpersonal influences) interact, enhancing or diminishing the commitment; and personal perceptions and cognitions of any given situation or context (situational influences), as evaluations that university students must perform, which expose them to stressful situations that may hinder health-promoting behavior. In addition, this study considers the Benefits and Perceived Barriers to action, i.e. a student would perform a health behavior if he/she anticipates more positive results as a result of this action; and conversely, he/she will not adopt a certain behavior if he/she perceives more blockages, whether imagined or real. Another component included is perceived self-efficacy, which influences the perceived barriers to action, so that greater efficacy leads to lower perceptions of barriers to the performance of this behavior. These factors are of great importance, because people can modify cognitions, affect, and interpersonal and physical environments to create incentives for health actions.[15]

The MPS proposes the immediate antecedents of the behavior or behavioral outcomes defined as immediate countervailing demands and preferences; a student who would like to perform a promoting behavior, such as jogging, but an alternative behavior (a countervailing demand) is interposed, in which he has low control because it is a contingent of the environment, such as studying for an evaluation; Similarly, a student who proposes to eat healthy, but has the option of going to eat pizza with his classmates, this alternative behavior is an immediate opposing preference in which the person has more control, because he can choose what he prefers, but has less control because he cannot change an evaluation, which lends itself to justify the lesser organization of time experienced by students.

Methodology

A quantitative, descriptive, correlational and cross-sectional study with a sample of 320 subjects. The population to be studied corresponded to 1,721 students belonging to the 11 undergraduate courses of a Chilean university. The sample was calculated considering a standard deviation of 5 and a confidence level of 95%. The selection criteria used were: to be a student between 17 and 30 years of age who is a regular student of any of the 11 careers taught at this campus. Students with sensory and/or physical disabilities were excluded. The application of the instruments was carried out by trained professionals, during the first academic semester of 2016 and under the knowledge of the Promosalud group of the University. Data collection was performed through a measurement instrument consisting of: Exercise Benefits and Barriers Scale (EBBS), Healthy Eating Barriers Scale (BHES), Rosemberg Self-Esteem Scale, Perception of Self-Efficacy and Sociodemographic Background Questionnaire. The self-administration instrument was applied after confirmation by means of informed consent. This study was approved by the Ethics Committee of the University studied.

The EBBS is an instrument designed to determine perceptions regarding the benefits and barriers to exercise. It was developed based on Pender's MPS.[17] It has 43 items, 14 for barriers and 29 for benefits. It presents Likert-type response options from 1 to 4. The highest score represents the individual who perceives exercise more positively. The test-retest reliability was 0.89 for the total instrument.[18] The BHES identifies obstacles to practicing healthy eating, designed by Fowles E. and Feucht J., has 16 items. It showed a test-retest reliability for the total scale of 0.79. It is scored on a 5-point Likert-type scale. A low score indicates fewer barriers to adopting healthy eating.[19] The Rosenberg Self-Esteem Scale (EAR) was validated in Chile by Rojas-Barahona C. et al.; the Cronbach's alpha of the scale is 0.754.[20] It consists of 10 items in a Likert-type response format. Score 10 indicates the lowest self-esteem and score 40 the highest.[21] The General Self-Efficacy Scale (EAG) Spanish version of Bäbler, Schwarzer and Jerusalem. It was validated in Chile by Cid P. et al. The EAG Scale consists of 10 items, with a minimum total score of 10 points and a maximum of 40 points. The responses are Likert-type. Cronbach's alpha was 0.84. The higher the score, the higher the perceived general self-efficacy.[22]

The data were analyzed with the SPSS 22 program using inferential statistics. We started with univariate statistics for the descriptive analysis of the sociodemographic variables (age, sex, career, level of education and high school establishment) and psychosocial variables (self-efficacy and self-esteem); through frequency tables and summary measures. We continued Spearman was applied for bivariate analysis of quantitative variables. Means were compared using Student's t-test for two independent samples and ANOVA was applied for more than two samples. It is worth mentioning that a significance of 5% was considered for the contrasts. Hypothesis tests were complemented with 95% confidence intervals.

Results

The item with the highest score on the Self-Efficacy Perception is "I can solve difficult problems if I try hard enough" and on the Self-Esteem Scale is: "I feel that I am a person worthy of appreciation, at least as much as others". The item most perceived as a benefit to present healthy eating is "I like to eat fruits", and the item most perceived as a barrier is "I have to go further than 1Km to buy fresh fruits and vegetables". The item most perceived as a benefit for exercising is "Exercising improves my physical condition", and the biggest barrier is "Exercising makes me tired" (Table1). Respondents who come from a public school perceive more obstacles to exercise, but not students who come from a private school, who have a higher perception of the benefits of exercise. These mean differences are statistically significant in the perception of barriers and in the total scale (Table 2). Table 3 shows that there is only a statistically significant difference between the variable perception of benefits for exercise and the academic year currently being studied. These differences are significant between years 1 and 3, and 2 and 3. More benefits and fewer barriers to healthy eating are perceived as age increases, these mean differences are significant for perceived benefits and total scale (Table4). There is a significant direct correlation between the perception of barriers to the adoption of health-promoting behaviors (exercise and healthy eating) and both psychosocial variables; this correlation is positive and more intense with self-esteem (Table 5).

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Table 1 Most frequent behaviors by Scale

Scale	Most frequent item	Media	D.S.
Self-efficacy	2	368	55
Self-esteem	1	368	55
BHES	13	464	74
	2	382	144
EBBS	15	379	47
	6	282	82

Table 2 Relationship of the Variable Establishment of Secondary Origin with EBBS

	Total				Benefits			Barriers		
Establishment from high school	**N**	**Media**	**D.S**	**Sig.**	**Media**	**D.S**	**Sig.**	**Media**	**D.S**	**Sig.**
Total	320	138,2	15,7		980	119		297	66	
Public	189	136,3	14,2		97,1	11,0		30,7	6,2	
				,009			,078			,002
Private	131	141,0	17,3		99,4	12,9		28,4	6,9	

Table 3 Relation of the Variable Year currently completed with EBBS

	Total				Benefits			Barriers		
Year currently studied	**N**	**Media**	**D.S**	**Sig.**	**Media**	**D.S**	**Sig.**	**Media**	**D.S**	**Sig.**
Total	320	138,2	15,7		98,0	11,9		29,7	6,6	
1	167	137,9	15,2	,218	97,7	11,3	,008	29,8	6,6	,868
2	99	136,6	17,5		96,1	13,5		29,4	6,4	
+3	54	142,3	13,2		102,4	9,1		30,1	7,0	

Table 4 Relationship of the Age Variable with BHES

	Total				Beneficios			Barreras			
Age Range	**N**	**Media**	**D.S**	**Sig.**	**Media**	**D.S**	**Sig.**	**Media**	**D.S**	**Sig.**	**Media**
Total	320	66,4	7,6		40,8	5,6			10,4	4,1	
17 - 22	287	66,4	7,6	,040	40,8	5,6	,013		10,4	4,1	,672
23 - 28	33	69,3	6,4		43,4	3,8			10,0	4,0	

Table 5 Correlations between Perception of Barriers to assume health promoting behaviors and Psychosocial Variables

		EBBS	BHES	Self-esteem	Self-efficacy
EBBS	C.de Spearman	1			
	Sig.(bilateral)				
	N	320			
BHES	C. de Spearman	,268**			
	Sig.(bilateral)	,000	1		
	N	N			
Self-esteem	C.de Spearman	,235**	,196**	1	
	Sig.(bilateral)	,000	,000		
	N	320	320	320	
Self-efficacy	C.de Spearman	,208	,125*	,490**	1
	Sig.(bilateral)	,000	,024	,000	
	N	320	320	320	320

Discussion

Descriptively, it was obtained that the population studied is characterized by being young adults, single and childless. The majority belonged to nursing or education careers; they were mainly women (78.4%), coinciding with El Ansari et al, who reported that women comprised 77.8% of the respondents, probably due to the nature of the careers (Health, Social Schools, etc.).[23] This coincides with the profile of the student who enters this university, who generally belongs to a rural sector and to a low or middle socioeconomic stratum, coinciding with what is stated in the study of the Regional Universities of Chile, which mentions that 89% of the students admitted to the regional universities of the Council of Rectors of Chilean Universities come from public establishments.[24] Most of the students present high to moderate self-efficacy values, highlighting the questions related to problem-solving ability. The largest proportion of respondents have good self-esteem, as reflected in questions related to the appreciation I deserve from others.

The EBBS was related in greater magnitude to the variable High school establishment of origin; students who come from public establishments perceive more barriers to exercise than those who come from private establishments, despite the fact that the high school establishment from which they come is not a direct indicator

of socioeconomic level, it is known that these students come from a medium to low socioeconomic level. This is consistent with Jepson et al and the National Survey of Physical Activity and Sports Habits 2015, in which they highlight that practice decreases as socioeconomic level decreases.[10,25] A lesser relationship resulted with the variable Year currently enrolled, students in more advanced years perceived more benefits to exercise, a situation that does not coincide with Nualnetr et al, who posit that students in higher grades significantly increase nutrition.[26] Although studies strongly relate the female gender variable to perceived greater barriers to exercise, in this study gender differences are not significantly related to the dependent variable.[27,28]

The most perceived obstacle for not practicing sports is the lack of physical condition, referred to as "exercising makes me tired", which is even perceived as a greater barrier than the lack of time, in agreement with the National Survey of Physical Activity and Sports Habits 2015, which states that the main causes of sedentary lifestyles are the lack of training and habits, also state that the most frequent reason for men to practice physical activity is entertainment and for women is to improve health, the latter reason agrees with this sample of women mainly, who perceive the benefits of physical activity as "Exercising improves my physical condition".[10]

BHES was more significantly related to age group, with students perceiving more benefits to healthy eating as their age increased. The most perceived benefit to healthy eating is the preference for eating fruits; considering that this population is mainly female, it coincides with the results of El Ansari, which state that women prefer to eat healthy and consume more fruits and vegetables.[23] The main perceived obstacle to healthy eating is access, as the respondents reported having to travel more than 1 km to obtain fresh fruits and vegetables, this is questionable because there are several places to sell these foods within a block of the university, so rather than a reason for limitation, it seems to justify an unhealthy behavior.

The EBBS and BHES were significantly related to the variables Self-esteem and Self-efficacy. To interpret this, it is necessary to refer to Pender's MPS which exposes the importance and association of individual characteristics and experiences (self-esteem) and behavior-specific cognitions and affects such as, barriers, benefits, and perceived self-efficacy that explain in some way the behavioral outcome, i.e. people engage in engagement in behaviors from which they anticipate and derive personally valued benefits and conversely, perceived barriers may impede commitment to action or to a specific health behavior.[15] As in the research by Chan et al, it is established that self-esteem and self-efficacy significantly influence in a positive or negative way the student's perception to eat healthily or practice physical activity. This is reflected in a student with a higher perception of self-efficacy since he/she perceives fewer barriers to perform certain behavior.[29] It is worth mentioning that the psychosocial variables established were significantly related to each other; these results are consistent with the research of Cid et al, Kreutz et al and Peker et al.[30,31,32]

Conclusion

Respondents tend to be female, young adults, single, without a partner or children. Most of them belong to the nursing or education career, they are within the first three years of training and they attended high school in a public establishment, considering themselves to be in a low or medium socioeconomic stratum. Both Self-esteem and Perceived Self-efficacy are represented with moderate to high values. Regarding the perception to do physical activity, those who are in higher courses perceive more benefits, this considering the high percentage of the careers of the respondents (health and education) whose training in this area emphasizes the importance of physical activity in the population ; On the other hand, those who attended secondary school in a public establishment perceive more barriers, this is due to social inequalities in our country, since Non-public secondary schools have more physical education subjects, sports, extracurricular activities such as sports workshops. They also have more infrastructure within the enclosure, such as sports fields, gyms, etc. Of the perceived obstacles, the main one is the lack of physical condition, referred to as "exercise tires me". And the premium benefit is to improve physical condition. Both sentences contradict each other, I lack the physical condition to carry out physical activity, but my physical condition improves if I do it; This also involves socioeconomic differences, which in this study is observed through training at the secondary level. In this study, most of these students come from public schools, where the Physical Education subject is an Elective and therefore, the importance of continuing to perform physical activity in adolescence is not taught, in order to later be young and healthy adults.

The BHES was related to the age group, students perceive more benefits to eat healthy as their age increases, this is related to disciplinary training, since the careers represented in this study address curricular issues towards health promotion. and disease prevention. The most valued benefit is eating fruits and the main obstacle perceived is the distance that they have to travel to get these foods, at the national level, it is a gap in which they have been working for a few years with public policies that facilitate healthy environments, without However, offering more places to sell fruit is not the only thing that must be done, since ultimately it depends on the student's decision to opt for a health-promoting behavior or not. Self-esteem and self-efficacy have implications for the perception of benefits and/or perceived barriers to having a healthy diet and to performing physical activity, high results in both psychosocial variables make students perceive more benefits and fewer barriers to eating healthy and do physical activity; low scores on these variables produce the opposite effect. Given the degree of information provided by the EBBS and BHES instruments and the result obtained by relating them to the sociodemographic and psychosocial variables of the respondents, it is not difficult to think about creating strategies that consider the individual characteristics identified, since these influence how each person is cared for, therefore from the point of view they can be used to reduce gaps or strengthen the favorable aspects that individual has, in this way it would allow us to establish and maintain a certain health behavior. It is necessary to continue research on this subject, in order to identify the predictors of barriers and benefits of health promoting behaviors assumed by university students, thus it could be generalized to other higher education institutions, even already having an explanatory and predictive model. In addition to empirical evidence and considering the social determinants of the country, this problem should be addressed in age groups of preschoolers, schoolchildren and/or adolescents, in order to intervene with public strategies with a view to healthier future generations.

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Conflicts of interest

The author declares there is no conflict of interest.

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