

Educational Intervention on the prevention of breast cancer in adolescents

Intervención educativa sobre la prevención del cáncer de mama en adolescentes

Reynaldo López Milanés ¹  , José Alfredo Gallego ² 

¹Teaching polyclinic "Romárico Oro Peña". Puerto Padre, Las Tunas.

²University of Medical Sciences Las Tunas. Filial de Ciencias Médicas de Puerto Padre, Las Tunas.

ABSTRACT

Received: 27/11/2023

Accepted: 18/02/2024

Published: 28/03/2024

Keywords: Hospital stay;
Multiple diseases;
Readmissions.

Palabras clave: Estadía
hospitalaria; Pluripatología;
Reingresos.

Quote as: Mayo Labrada R, Suárez Rivero B, Rosell Suárez A, Pérez Montes de Oca E, Marcheco Moreira O, Torres Toledo J. Caracterización de pacientes pluripatológicos en el servicio de Medicina Interna del Hospital Militar Carlos Juan Finlay. UNIMED [Internet]. 2024. [cited access date]; 6(1). Available from: <https://revunimed.sld.cu/index.php/revestud/article/view/342>

Introduction: breast cancer is an imminent health problem, especially for the female population.

Objective: evaluate the effectiveness of an educational intervention on breast cancer risk factors and self-examination, in adolescents from CMF No. 11 of the Romárico Oro Peña Polyclinic of the Puerto Padre municipality of Las Tunas, in the period between January and December of the 2022.

Method: a quasi-experimental study of an educational intervention type was carried out on adolescents from CMF No. 11 of the Romárico Oro Peña Polyclinic of the Puerto Padre municipality of Las Tunas, in the period between January and December 2022. The universe was made up of 135 adolescents and the sample consisted of 59 adolescents selected taking into account the inclusion, exclusion and exit criteria.

Results: the age of 11 to 13 years predominated (42.37 %). The predominant risk factor was coffee (66.10 %), followed by smoking (25.42 %). The majority of adolescents (94.9 %) had inadequate knowledge about breast self-examination. After the intervention they increased to 96.6 % of adequate knowledge.

Conclusions: the educational intervention was effective, because it demonstrated an increase in the level of knowledge about breast cancer and breast self-examination, hence the importance of carrying out interventions that promote self-examination and the reduction of risk factors, in the level of primary health care.

RESUMEN

Introducción: el cáncer de mama constituye un problema inminente para la salud, sobre todo, para la población femenina.

Objetivo: evaluar la efectividad de una intervención educativa sobre factores de riesgo del cáncer de mama y el autoexamen, en las adolescentes del CMF No. 11 del Policlínico Romárico Oro Peña del municipio Puerto Padre de Las Tunas, en el período comprendido entre enero y diciembre del 2022.

Método: se realizó un estudio cuasi-experimental de tipo intervención educativa, en las adolescentes del CMF No. 11 del Policlínico Romárico Oro Peña del municipio Puerto Padre

de Las Tunas, en el período comprendido entre enero y diciembre del 2022. El universo estuvo constituido por 135 adolescentes y la muestra la constituyeron 59 adolescentes seleccionadas teniendo en cuenta los criterios de inclusión, exclusión y salida.

Resultados: predominaron las edades de 11 a 13 años (42,37 %). El factor de riesgo que predominó fue el café (66,10%), seguido del tabaquismo (25,42 %). La mayoría de las adolescentes (94,9 %) tenían conocimientos inadecuados sobre el autoexamen de mama. Luego de la intervención aumentaron a 96.6% de conocimientos adecuados.

Conclusiones: la intervención educativa fue efectiva, porque demostró un incremento en el nivel de conocimiento sobre el cáncer de mama y el autoexamen de mama, de ahí la importancia de la realización de intervenciones que promuevan el autoexamen y la disminución de factores de riesgo, en el nivel de Atención primaria de la salud.

INTRODUCTION

Breast cancer is the most prevalent neoplasm in the female population. It was first described in the Edwin Smith Papyrus, between 3,000 and 2,500 B.C.⁴ Currently, cancer is a disease of both developed and developing countries. Risk factors have been described to identify the possibility of contracting a malignant tumor, however, cancer can occur in approximately 50% of cases with no demonstrable risk factors to explain it. It is estimated that 12.3% of women will be diagnosed with cancer at some point in their lives.

The incidence of breast cancer varies in different geographic regions, with high rates in North America and Western Europe; intermediate values in South America and Eastern Europe, while the lowest rates are reported in Asia. It is the most common type of cancer and the second leading cause of cancer death among women in the Americas. Each year in the region there are more than 46,000 new cases and almost 100,000 deaths from breast cancer. Among women in Latin America and the Caribbean, breast cancer accounts for 27% of new cases and 16% of cancer deaths.

Breast self-examination is an important weapon for the early diagnosis of breast cancer in primary health care (PHC). Its use is the first resource a woman and the attending physician have to reach an

early diagnosis of some pathological processes of the mammary gland, and specifically of cancer. More than 80% of breast nodules are diagnosed by the woman herself.

In the municipality of Puerto Padre, a total of 9784 breast exams were performed in primary health care during the year 2022, of which 78 were pathological. Due to the high incidence of breast pathologies in the municipality of Puerto Padre and constituting an important health problem that was reflected in the analysis of the health situation of the area belonging to the polyclinic, it was decided to carry out this work from a community perspective, so as to allow physicians at this level to develop preventive activities that contribute to the reduction of the risk factors of this disease, or to issue an early diagnosis. That is why the present project pursued within its objectives to evaluate the effectiveness of an educational intervention strategy on breast cancer and breast self-examination, in the adolescents of the CMF No. 11 of the Policlínico Romárico Oro Peña of the Puerto Padre municipality of Las Tunas, in the period between January and December 2022.

METHOD

A quasi-experimental study of educational intervention on breast cancer in adolescents of the CMF No. 11 of the Polyclinic Romárico Oro Peña of the Puerto Padre municipality of Las Tunas, in the period between January and December 2022 was carried out.

The universe was constituted by 135 female adolescents that existed in the community belonging to the CMF 11 of the Polyclinic Romárico Oro Peña of the municipality of Puerto Padre, in the year 2022.

The sample consisted of 59 adolescents selected for the intervention process taking into account the inclusion, exclusion and exit criteria.

Inclusion criteria: Patients belonging to the CMF 11 of the polyclinic Romárico Oro Peña with breast cancer risk factors and aged between 11 and 19 years old.

Exit criteria: Adolescents who dropped out of the process. Adolescents who died during the process.

Exclusion criteria: Patients who refused to participate in the research. Patients who did not have permanent residence in the health area.

The following variables were studied: age (11-13 years, 14-16 years, 17-19 years), level of schooling (primary, secondary and high school), modifiable breast cancer risk factors (smoking, coffee intake, alcohol intake), knowledge of risk factors and breast self-examination before and after the educational intervention (high, medium and low).

The research was divided into 4 stages:

1-Diagnostic stage: In this stage the pre and post survey was elaborated and applied to the educational intervention which consisted of 13 dichotomous closed questions about the research problem designed according to reviewed bibliography and proposed objectives.

2-Design stage: A training program was developed for patients with breast cancer risk factors, based on the insufficient knowledge identified in the applied interviews. An educational intervention was designed to modify the level of knowledge about the disease, as these were given, it was observed that the participants had little knowledge about the risk factors, so an action plan was developed. The program is structured by two sessions per week, during 10 weeks, and it was organized by twenty activities. The types of activities that were carried out were: six visual material delivery activities, seven workshops and seven talks.

3-Intervention stage: The action plan was carried out from the month of January 2022, where the educational strategy was applied, designed according to existing needs, the activities were taught in the following order: first lectures, deliveries of visual materials, workshops, this was carried out with a frequency twice weekly, in the afternoon schedule, one hour long, for 10 weeks to facilitate attention in the activities was divided into two groups (of 29 patients and 30 patients) .

The strategy was based on the results obtained in the initial survey. Lectures, visual material delivery activities and workshops were used as techniques.

4-Evaluation stage: Once the research was concluded, the development of this stage was carried out in May. The survey was applied again after the action plan, defining the level of knowledge through closed questions, educational knowledge about breast self-examination and breast cancer prevention. The post-test was applied to determine the level of knowledge acquired during the

educational intervention. The scale for its definition was:

-High: If answering 10 to 13 correct questions.

-Medium: Among 6 to 9 correct questions.

-Low: less than 5 correct questions.

To demonstrate content validity, the survey was submitted to the judgment of the author and experts in the field, which allowed us to know their opinions regarding the following aspects: correspondence of the items and the indicators of the dimensions to be measured; clarity and wording in the elaboration of the questions of the questionnaire and delimitation of the items.

The information obtained was processed in a database in Microsoft Office Excel 2013. The writing and editing of the article were done on a VIT computer with a Windows 10 environment.

For the analysis of the results, the data collected in the survey of adolescents were included, the results were organized for better understanding in tables of data association and frequency distribution. Percentage was used as a summary measure.

The data obtained from the sources were treated in accordance with the ethical standards established in the Declaration of Helsinki, guaranteeing anonymity and confidentiality in all cases. The approval of the Ethics Committee of the Polyclinic "Romárico Oro Peña" was requested.

RESULTS

Table 1 shows the distribution of adolescents according to age group and schooling, the most representative age group was between 11 and 13 years, with a total of 25 patients. In turn, the predominant level of schooling was secondary school, with a total of 30 patients.

Table 1. Distribution of patients according to age groups and schooling of the CMF No. 11 of the Policlínico Romárico Oro Peña of the Puerto Padre municipality of Las Tunas, in the period between

January and December 2022.

Age group	No.	%	School level	No	%
11-13	25	42,37	Primary School	13	22,03
14-16	18	30,50	Secondary School	30	50,84
17-19	16	27,11	Senior High School	16	27,11
Total	59	100		59	100

Source: Database

Table 2 shows the distribution of adolescents with risk factors, where it was observed that the predominant risk factor was coffee consumption, followed by smoking. The least representative risk factor was mammary dysplasia, where none of those studied presented the same, followed by breast trauma and dietary habits, where one (1) and two (2) patients presented the same, respectively.

Table 2. Distribution of patients according to breast cancer risk factors.

Risk factors	Total teenagers	%
Coffee consumption	36	66,1
Smoking	15	25,4
Alcoholism	6	10,16
Breast trauma	1	1,16
Breast dysplasia	0	0
Diet habits	2	3,38

In Table 3, the results of the research showed a strong cognitive acceptance regarding breast self-

examination, before the intervention only a minority, three (3) patients, had knowledge about breast self-examination, but once the clarifications about the procedure were completed, almost all of the 57 patients studied presented a high level of knowledge, only two of them presented a medium level and none presented low levels of knowledge on this important topic.

Table 3. Distribution of patients according to knowledge before and after breast self-examination.

Breast examination knowledge	Before		After	
	No.	%	No.	%
High	3	5,1	57	96,6
Medium	10	16,9	2	3,4
Low	46	78	0	0
Total	59	100	59	100

Source: Survey

With respect to knowledge of risk factors, the results in Table 4 were good, as it was high in 54 of the women studied and low in only two (2) of them. The most identified risk factor was smoking, followed by alcoholism.

Table 4. Level of knowledge about breast cancer risk factors.

Knowledge level	No.	%
High	54	91,5
Medium	3	5,08
Low	2	3,38
Total	59	100

DISCUSSION

One of the objectives of the family doctor and nurse practitioner's program is to provide the female population in their area with a breast examination at least once a year and to keep a close watch on patients with risk factors.

Breast cancer is a frequent problem in the female population, it is detected but not given due therapeutic attention. The research carried out in the medical office number 11, which treats 59 adolescents between 11 and 19 years of age, was compared with studies done at the regional and national level, in order to know the behavior of breast cancer.

In this study, in the distribution of patients according to age, the age group of 11 to 13 years predominated with 25 adolescents representing 42.37% of the total cases, followed by the group of 18 adolescents representing 24.56%. Another factor to be mentioned is the level of schooling, with a predominance of high school, with 30 adolescents accounting for 50.84%.

In this study it was observed that the predominant risk factor was coffee consumption with 66.10 % followed by smoking for 25.42 %. The risk factors for breast cancer, even those established in the scientific literature, are not well known and are not often discussed with women and patients in general, finding discrepancies in the study of Meneses-Echávez where 24.5 % of the students from Bogota believe that physical inactivity is associated with the development of breast cancer.⁸ About the risk factors for breast cancer there is a lack of knowledge by women, which does not make possible its adequate prevention. Meneses et al.⁹ report women's lack of knowledge about breast cancer risk factors. Coinciding with other studies, they relate alcoholism as well as smoking. ¹⁰

In a study conducted by Rodríguez et al.¹¹ on the practice of breast self-examination, women who did not know about this procedure prevailed, but it was shown that after the implementation of an educational intervention strategy, adequate or sufficient levels of knowledge are reached. These results are similar to those found in this investigation. In this study it was concluded that the level of knowledge was high (91.5%).

Based on these results, Cuenca Rodríguez et al.¹² reported in their study that of all the women

participating, 31.4% only performed breast self-examination occasionally, while 14.2% had never performed it, showing a great lack of knowledge on the subject and coinciding with the results of the present article. The study by Gálvez-Espinosa et al.¹² of knowledge about breast self-examination in women 30 years of age and older, agrees with the results of the present article, since it shows a poor knowledge about breast self-examination in the participants, which is justified in that 57.9 % did not know what it is, only 31.4 % correctly perform the self-examination technique, only 35.3 % of them practice it after menstruation, 21.6 % perform breast self-examination on a monthly basis and 1.9 % never perform it. Results very similar to those found in the Riverón-Carralero study showed an increase in the level of knowledge about prevention, risk factors and breast self-examination, 13 and the same results were found with the Meneses Quispe program.

With this study we can observe that the adolescents studied gained knowledge about self-examination with 57 adolescents representing 96.6% in this sense, the success of the program would not only lie in the opportunity for women who become aware of this method, learn to perform it correctly and can detect any malignancy of the breast in early clinical stages, which would allow treatment of patients that can yield excellent results in cure rates, but would also allow the reduction of costs for the care of cases, which in most cases must be borne by the patients themselves and their families. Therefore, in addition to the promotion of breast self-examination and education of women to encourage self-care, it is extremely necessary to improve the care of patients with this malignancy and increase the coverage of the oncological screening program by acquiring mammography equipment with state-of-the-art technology; It is also necessary to train human resources, both technical and professional, to take, read and interpret mammography findings, take biopsies and interpret histopathological and molecular biology tests, manage chemotherapy, radiotherapy and hormone therapy, among other needs, in order to achieve the objectives of reducing breast cancer mortality.

CONCLUSIONS

The educational intervention was effective, because it demonstrated an increase in the level of knowledge about breast cancer and breast self-examination, hence the importance of carrying out

interventions that promote self-examination and the reduction of risk factors, at the primary health care level.

DECLARATION OF CONFLICT OF INTEREST:

The authors declare that they have no conflict of interest in the preparation of the research.

DECLARATION OF FINANCING:

The authors of this research declare that they have not received any funding for this research.

DECLARATION OF AUTHORSHIP:

Conceptualization: Reynaldo López Milanés.

Data Compilation: José Alfredo Gallego.

Formal Analysis: Reynaldo López Milanés.

Investigation: José Alfredo Gallego.

Methodology: Reynaldo López Milanés.

Supervision: Reynaldo López Milanés.

Validation: José Alfredo Gallego.

Visualization: Reynaldo López Milanés.

Writing – original draft: José Alfredo Gallego y Reynaldo López Milanés.

Writing - review and editing: Reynaldo López Milanés.

BIBLIOGRAPHIC REFERENCES

1. Palmero Picazo J, Lassard Rosenthal J, Juárez Aguilar LA, Medina Núñez CA. Cáncer de mama: una visión general. Acta méd. Grupo Ángeles [Internet]. 2021 Sep [cited 2023 Dic 02]; 19(3): 354-60. Available from: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1870-72032021000300354&lng=es
2. López-Sánchez I, Casado-Méndez PR, Santos-Fonseca RS, Méndez-Jiménez O, Estrada-Sosa R, Guzmán-González AJ. Prevalencia de factores de riesgo del cáncer de mama en población rural femenina. AMC [Internet]. 2019 oct [cited 2023 Dec 02]; 23(5): 563-72. Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1025-02552019000500563&lng=es
3. Cabrera M, Aparicio de Real C. Variabilidad biológica e histológica del cáncer de mama. Rev Nac (Itauguá) [Internet]. 2019 Dec [cited 2023 Dec 02]; 11(2):41-50. Available from: http://scielo.iics.una.py/scielo.php?script=sci_arttext&pid=S2072-81742019000200041&lng=en.
4. Brouwers PJAM, van Werkhoven E, Bartelink H, Fourquet A, Lemanski C, van Loon J, et al. Predictors for poor cosmetic outcome in patients with early stage breast cancer treated with breast conserving therapy: Results of the Young boost trial. Radiother Oncol [Internet]. 2018[cited 2023 Dec 02]; 128 (3): 434-41. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0167814018333358>
5. Ramírez Valle M, García Montesino G. Cáncer de mama invasivo según subtipos moleculares en la provincia de Pinar del Río. Rev Ciencias Médicas [Internet]. 2020 [cited 2023 Dec 02]; 24 (5): e4362. Available from: <http://revcmpinar.sld.cu/index.php/publicaciones/article/view/4362>
6. Valdés Lara G, García Espinosa A, Pedroso Morales I. La rehabilitación del cáncer de mama en Cuba. Rev Invest. Medicoquir [Internet]. 2019 [cited 2023 Dec 02]; 11(supl.1): [about 18 p.]. Available from: <https://www.medigraphic.com/pdfs/invmed/cm-q-2019/cmqs191v.pdf>
7. Cabrera Cruz N, Toledo Fernández AM.

- Los estudios de pesquisa activa en Cuba. Rev Cubana Salud Pública. 2022 Jan-Mar [cited 2023 Dec 02];34(1): [about. 8 p.]. Available from: http://scielo.sld.cu/scielo.php?pid=s0864-34662008000100015&script=sci_arttext
8. Centro Nacional para la Prevención de las Enfermedades Crónicas y la Promoción de la Salud (NCCDPHP). 2007 [acces: 15/09/2018]. Available from: http://www.cdc.gov/spanish/cancer/breast/risk_factors.htm
9. Meneses-Echávez JF, Martínez-Torres J, Chavarriaga-Ríos MC, González-Ruiz K, Vinaccia-Alpi S, Rincón-Castro AD, et al. Creencias y conocimientos relacionados a la práctica del autoexamen de mama en mujeres universitarias de Colombia: Un estudio descriptivo. Rev chil obstet ginecol [Internet]. 2018 Apr [cited 2023 Jul 02] ; 83(2): 120-9. Available from: http://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0717-75262018000200120&lng=es
<http://dx.doi.org/10.4067/s0717-75262018000200120>
10. Del Turco RM, Palli D, Cariddi A. Intensive diagnostic follow-up after treatment of primary breast cancer. A randomized trial. JAMA[Internet]. 1994 [cited 2023 Jul 02]; 271(20):1593-7. Available from <http://doi:10.1001/jama.1994.03510440053032>
11. Rodríguez Castro LM, Morgado Bode YL, Morejón Morejón N, González Herrera Y. Conocimientos de los factores de riesgo asociados al cáncer de mama: Sancti Spiritus 2008. Gac Méd Esp[Internet]. 2010 [cited 2022 Dec 12];12(1): [about 2 p.]. Available from: http://bvs.sld.cu/revistas/gme/pub/vol.12.%281%29_01/p1.html
12. Cuenca-Rodríguez C, Despaigne-Biset AE, Beltrán-Mayeta Y. Factores de riesgo de cáncer de mama en mujeres pertenecientes a un consultorio médico del Centro Urbano “José Martí”. MEDISAN [Internet]. 2013 [cited 2022 Dec 12]; 17(9): 4089-95. Available from: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S10293019201300090005&lng=es
13. Gálvez-Espinosa M, Rodríguez-Arévalo L, Rodríguez-Sánchez CO. Conocimiento sobre autoexamen de mama en mujeres de 30 años y más. Revista Cubana de

-
- Medicina General Integral [Internet].
2015 [cited 2022 Dec 13]; 31(2):134-42.
Available from:
http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21252015000200003&lng=es
14. Riverón-Carralero WJ, Rodríguez Escobar K, Ramírez Carralero M, Góngora-Gómez O, Molina Tamayo LE. Intervención educativa sobre cáncer de mama. Rev cubana Med Gen Integr [Internet]. 2021 Mar [cited 2023 Dec 02]; 37(1): e1354. Available from:
http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21252021000100011&lng=es.
15. Meneses Quispe SR. Programa sobre conocimiento de autoexamen de mama en madres de estudiantes educadores de una institución educativa pública, 2018. Horiz Med. [Internet]. 2022 abr [cited 2023 Dec 02]; 22(2): e1691. Available from:
http://www.scielo.org.pe/scielo.php?script=sci_arttext&pid=S1727-558X2022000200009&lng=es