

Women Survey on Women Awareness of Cardiovascular Disease

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ABSTRACT

Background

Cardiovascular diseases represent a major health problem for women in Argentina. Since 2007, more women than men die in our country due to heart disease and a woman dies every 11 minutes, according to the latest published vital statistics. We performed a telephone survey in a representative sample of women from Buenos Aires in order to assess whether they are aware they may suffer from cardiovascular diseases and their knowledge about these pathologies. Results from 600 respondents showed that the vast majority of women have an adequate level of knowledge about cardiovascular risk factors, symptoms of heart disease and stroke, as well as behaviors that prevent or reduce the likelihood of becoming ill. However, most women, especially the younger ones, perceive breast cancer as a major health concern rather than cardiovascular diseases. The results also show that women get most of the information about cardiovascular diseases mainly from mass media and rarely from their doctors.

Raising women awareness about their risk of suffering from cardiovascular diseases might lead to the adoption of better preventive behaviors and, in the case of an acute cardiovascular event, seek immediate help to have access to the best treatment.

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Key words > Cardiovascular diseases – Women – Gender – Awareness – Knowledge – Survey

INTRODUCTION

Cardiovascular diseases are the leading health problem for women in the Western world. (1) According to the National Ministry of Health latest data for 2010 one in three women die from cardiovascular causes in Argentina, representing a woman every 11 minutes, (2). Moreover, since 2007, more women than men die in our country from cardiovascular causes. (3-6)

Various surveys of the American Heart Association indicate that although vital statistics confirm that heart disease is the leading cause of morbidity and mortality, women have a poor awareness of its impact in the female population. (7-8)

As a result of the absence of published information on whether there is also a gap between reality and perception of cardiovascular diseases in women in our environment, the general purpose of the study was a survey of cardiovascular disease awareness in women performed by women.

Specific objectives included:

- To assess the level of awareness among women about cardiovascular disease, its impact in terms of mortality, symptoms, risk factors and behaviors that may prevent or reduce the likelihood of getting ill.
- To evaluate the perception and level of concern that women have about their own risk of suffering

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from cardiovascular diseases.

METHODS

Study population

Women between 20 and 70 years, living in the Autonomous City of Buenos Aires and in areas of the Greater Buenos Aires entered the study. Previous screening was conducted before multistage, quota, random sampling by household and by woman.

General study design and survey method

An observational, descriptive, transverse study was conducted using a semi-structured questionnaire with inquiry to spontaneous answers and questions about demographic characteristics, concern about women's health problems in general, specific knowledge of risk factors, symptoms and prevention of heart disease and data about source of information about cardiovascular health. Surveys performed in the United States were taken as model. Professional interviewers employed by the SEL opinion research company conducted the telephone survey during April 2006. The Computer Assisted Telephone Interviewing (C.A.T.I.) support system was used, in which the interviewer follows the software-administered interview and the system commands the questionnaire, executes pre-established filters, and controls that answers lie within a logical range with no missing data, thus allowing simultaneous information compilation and accuracy.

Statistical analysis

Normal discrete variables (demographic data and collected answers) were expressed as percentages, and continuous variables, as mean \pm standard deviation. Non-normal variables were expressed as median with 25-75 interquartile range. Discrete variables were compared using the chi-square test with Yates correction or Fisher's exact test and the chi-square test for trend. A two-tailed p value < 0.05 was considered statistically significant in all cases. Stata 8 software was used to perform statistical analyses.

RESULTS

Demographic characteristics and cardiovascular risk factors

The demographic characteristic of 600 women included in the study is shown in Table 1. Their mean age was 40.8 ± 13.9 years, more than half were married, half of them had a medium socio-economic status and 23.2% were heads of household. Median number of children was 2 (IQR 0-3) and 26.5% had no children. Almost 80% of women had medical insurance and 20% usually attended a public hospital. Seventy percent of respondents had completed secondary school or had attained an advanced educational level. Respondents referred presence of the following risk factors: diabetes (3.2%), obesity (11.7%), hypertension (13.7%), dyslipidemias (11.7%) and current smoking (29.3%). Personal history of heart disease was present in 3.5% of women and 29.2% had parents or siblings affected by this disease. Personal and first degree family history of stroke was 0.8% and 12.2%, respectively.

Most women reported performing physical activity between 2 and 3 times a week, 24% exercised 4 or more times a week and more than one out of four women answered that they seldom or never per-

Table 1. Demographic characteristics and cardiovascular history

	Total : n=600
Age (mean \pm SD) – years	40.8 \pm 13.9
	n (%)
Age groups	
20 – 29 years	168 (28.0)
30 – 49 years	258 (43.0)
50 – 70 years	174 (29.0)
Region	
CABA	200 (33.3)
GBA	400 (66.7)
Socio-economic status	
High and medium high	80 (13.3)
Medium	293 (48.8)
Medium – low	148 (24.7)
Low	79 (13.2)
Marital status	
Married	325 (54.2)
Separated-divorced	47 (7.8)
Single	168 (28.0)
Domestic partnership	30 (5.0)
Widow	30 (5.0)
Relationship to the head of family	
Wife	332 (55.3)
Is head of household	139 (23.2)
Daughter	93 (15.5)
Is not a relative	14 (2.3)
Another relative	22 (3.7)
Children	
No children	159 (26.5)
1 or 2 children	281 (46.8)
More than 2 children	157 (26.2)
DK/NA	3 (0.5)
Healthcare provider (*)	
Health insurance	324 (54.0)
Prepaid health insurance	127 (21.2)
Public hospital	119 (19.8)
PAMI	31 (5.2)
Private doctor	26 (4.3)
DK/NA	8 (1.3)
Cardiovascular history	
Diabetes	19 (3.2)
Obesity	70 (11.7)
Current smoking	176 (29.3)
High cholesterol	70 (11.7)
Hypertension	82 (13.7)
Heart diseases	21 (3.5)
Stroke	5 (0.8)

CABA: Autonomous City of Buenos Aires, GBA: Greater Buenos Aires. DK/NA: Don't know or No answer PAMI: National Institute of Social Services for Retirees and Pensioners *Healthcare provider is over 100% as there are several possible answers.

formed any physical activity. In the last year, more than 80% of women had controlled at least once their blood pressure (Figure 1), and 60% had assessed their cholesterol levels.

Health perception and awareness in women

When respondents were spontaneously asked to identify the leading cause of death in the female population, most of them (53.8%) referred to cancer in general and breast cancer in particular, while only 20% identified heart disease as the major cause of death, with no significant differences between socio-economic levels. The age group analysis showed that there was a better risk perception with increasing age (20-29 years: 13.7%, 30-49 years: 19.0% and 50-70 years: 21.8%, $p = 0.049$). Figure 2 illustrates contrasting values between answers of health perception and 2006 vital statistics. (3)

Breast cancer was considered the major female health problem by 32% of women, overall, and by more than 40% of young respondents. Conversely,

cardiovascular diseases were significantly identified as the leading health problem by 8.3% of the whole female population and by 2.4% of those between 20 to 29 years compared to 15.5% of women between 50 to 70 years (Table 2).

Similarly to these data, when asked how concerned they were about the possibility of suffering from these diseases, the answers in decreasing order were: breast cancer (41%), cancer in general (40%), heart disease (31%), osteoporosis (25%) lung cancer (25%), stroke (20%), diabetes (20%), Alzheimer disease (18%), AIDS (17%) and drug or alcohol abuse (6%).

Knowledge about cardiovascular risk and prevention

The respondent's knowledge about risk factors was evaluated through guided questions on the risk ratio of several conditions associated to the development of cardiovascular pathologies, with high, medium, low or none possible responses. More than 85% of the respondents declared that smoking, hypertension, high cholesterol or overweight were high risk conditions;

Fig. 1. Blood pressure control

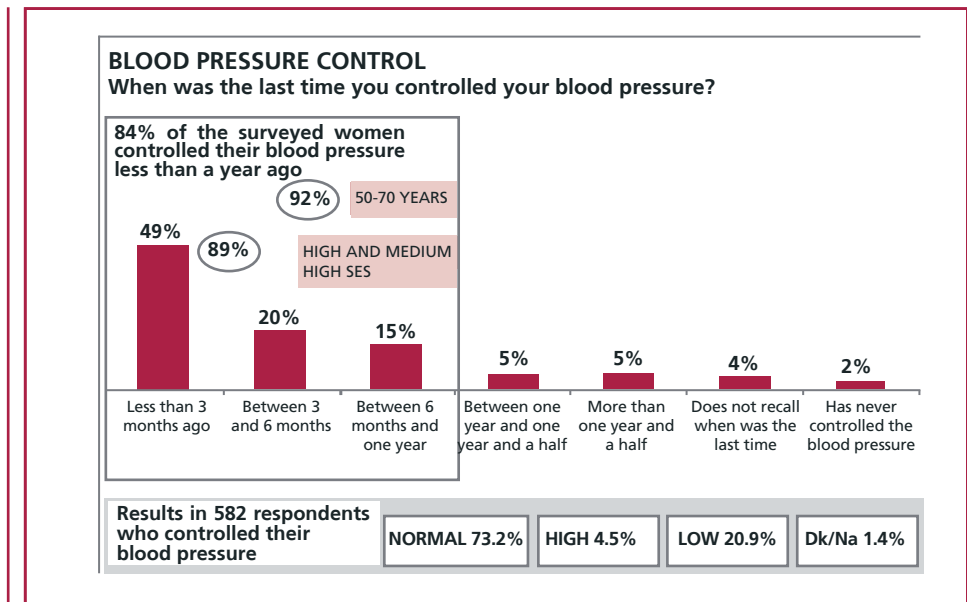
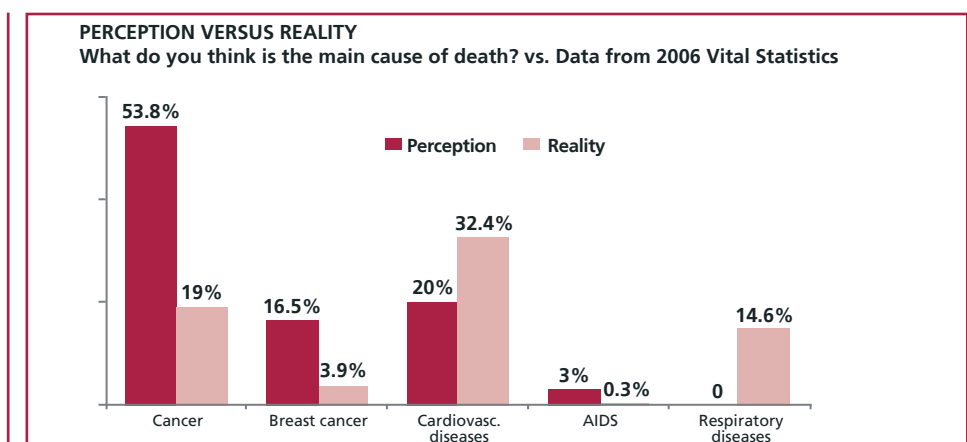


Fig. 2. Leading cause of death in women: perception versus real data



nearly 70% mentioned family history of cardiovascular disease, sedentarism and depression, while 60% thought diabetes to be a cardiovascular risk factor.

Regarding strategies to reduce cardiovascular risk, more than 90% of respondents stated that smoking cessation, lowering weight, reducing cholesterol and doing physical activity contributed a great deal to prevent cardiovascular diseases.

Knowledge of cardiovascular disease

Fifty six percent of women considered having slight or no knowledge about cardiovascular diseases in women, while 20% had sufficient, 21% good and 3% very good information. However, when asked about symptoms, more than 90% knew that chest pain or tightness could be manifestations of a heart attack and nearly 80% had information about different signs associated to stroke.

The probability of increased cardiovascular disease after menopause was considered to be true by 68% of women and 77% knew that these pathologies develop silently over the years. Almost half of the respondents declared that men are more prone to heart disease than women.

Sources of information

Figure 3 depicts the proportion of women who had seen, read or heard information about heart disease during the last year and the sources of this information. Thirteen percent of respondents declared that this information was provided by the doctor. When asked whether they had consulted with their doctors about prevention measures, symptoms or cardiovascular risk factors, 80 % responded that they had not, 53% because they considered themselves healthy, 23% due to lack of time, 17% because they thought it was not relevant, 10 % because they did not remember, 5% because they considered they already had the information and 4% because of fear. On the other hand,

when inquired whether their doctors had informed them about risk factors without being asked, 69% answered negatively, 5% had received very little, 11%, some and 15% plenty information.

DISCUSSION

The results of this survey show that, even though the vast majority of women have an adequate degree of knowledge about cardiovascular risk factors, symptoms of coronary heart disease and stroke, and behaviors that prevent or reduce the likelihood of getting ill, many of them, especially young women, perceive that breast cancer is a much more important health problem than cardiovascular diseases.

More than half of the women believe that the main cause of death in women is cancer and only 20% that it is due to cardiovascular disease, and most are more concerned by cancer in general and breast cancer in particular than by cardiovascular diseases. Data from the National Ministry of Health reveal that cardiovascular diseases are responsible for more deaths annually than those corresponding to all types of cancers, accidents and AIDS put together (1-6). Of the total number of deaths in women, 32% corresponds to cardiovascular causes, 19% to cancer in general and less than 4% to breast cancer.

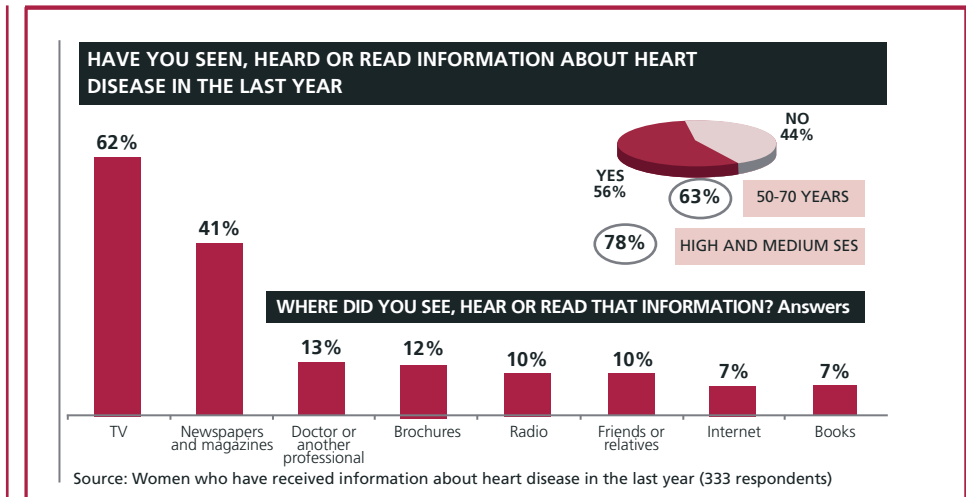
The gap between this reality and women's perception is even higher than that found in United States surveys, where in 1997, 30% of respondents identified heart disease as the leading cause of death in the female population, a proportion that rose to 34% in 2000, 46% in 2003 and 54% in 2009, following the implementation of awareness campaigns. (7-9).

There are at least two possible positive implications related to increased perception of women's risk of suffering from cardiovascular diseases. The first deals with prevention, i.e. women adopting healthier behaviors and consulting with their doctors about

What is, in your opinion, the main health problem women face? Spontaneous answer. Only reference	AGE				p value
	TOTAL	A: 20-29	B: 30-49	C: 50-70	
Breast cancer	32.0%	40.5%	35.7%	18.4%	p<0.0001 A vs. C; p=0.0001 B vs. C
Stress	16.7%	8.9%	17.8%	22.4%	p=0.0006 A vs. C; p=0.01 A vs. B
Cancer in general	11.9%	17.9%	9.7%	8.6%	p=0.01 A vs. C; p=0.01 A vs. B
Heart disease	8.5%	3.0%	7.4%	15.5%	p=0.0001 A vs. C; p=0.007 B vs. C
Gynecological problems	3.0%	1.2%	3.1%	4.6%	p=ns
Obesity	2.8%	1.8%	3.1%	3.4%	p=ns
Smoking	2.7%	3.6%	3.1%	1.1%	p=ns
AIDS	1.8%	2.4%	1.9%	1.1%	p=ns

Table 2. Main health problems in women

Fig. 3. Information on heart disease.



their cardiovascular risk. It has been shown that there is a positive correlation between the knowledge that cardiovascular disease is the leading cause of death and the implementation of actions to reduce cardiovascular risk such as physical activity and weight control (1). Moreover, the Nurses' Health Study, which included more than 80000 women followed-up for 14 years, showed that 82% of coronary events were attributed to lack of adherence to a healthier lifestyle and diet, smoking cessation and exercise (11).

Reports from the National Surveys of Risk Factors, conducted by the National Ministry of Health in 2005 and 2009, showed that the prevalence of sedentarism had increased from 47.0% to 58.5% and that of obesity from 13.9% to 17.1% in women. (12, 13)

The second possible positive consequence is to reduce consultation time in case a woman presents with an acute cardiovascular event. According to the Myocardial Survey conducted in 2005 by the Argentine Society of Cardiology, the median time between onset of symptoms and hospital admission was 330 minutes in women and 240 minutes in men (14). Similarly, data from United States show that women with myocardial infarction consult later than men (15) and that even in emergency services women are more likely than men to experience a delay in transfer when suspected of coronary symptoms (16). Specifically, in the case of myocardial infarction, it has been described that female gender per se represents an independent predictor of lower reperfusion therapy and of further delay to the implementation of thrombolysis and primary angioplasty, which explains in part the higher mortality of women compared to men (17-19). Achieving a reduction in consultation time both in infarction as in stroke cases, may possibly result in a higher proportion of women with a suitable time window of access to treatment and a better outcome, which in turn would imply longer survival.

The results of this survey also show that only half of the women had received cardiovascular health

information in the past year, mass media being the main source of communication. It is interesting that while other international surveys have reported that the media are the most frequently used source for information on stroke and cardiovascular disease (20, 8), the confusion generated by the media is one of the main barriers for the adoption of behaviors that would reduce cardiovascular risk (10).

On the other hand the fact that doctors are rarely the source of medical knowledge could be capitalized as an opportunity for improvement, as well as proposing the participation of specialists as mass media communicators.

In 2006, the Argentine Heart Foundation and the Argentine Society of Cardiology created, under the coordination of Dr. Liliana Grinfeld, the program "Women and Cardiology", later renamed "Heart and Women" with the purpose of preventing cardiovascular disease in Argentine women, mainly through awareness campaigns.

And while numerous actions have been performed since then, many others still remain to be done, as the development of specific prevention guidelines for women, similar to those published by other international scientific societies (21, 22), a reassessment of the current perception level after the implementation of campaigns and the detection of possible barriers to early consultation and prevention.

Limitations

Study limitations are lack of national representativeness, as the survey was only performed in Buenos Aires, and selection bias because it was a telephone survey.

CONCLUSIONS

In our country women's perception about their health problems differs from reality, since most do not acknowledge heart disease as the leading cause of death in women. Although the degree of knowledge about

cardiovascular diseases is high, it seems that women do not relate this information with the belief that they themselves may become ill. Health information is scarce and comes mostly from the media; hence, communication between doctors and patients offers an opportunity for improvement.

RESUMEN

Encuesta de reconocimiento de la enfermedad cardiovascular en la mujer por la mujer.

Introducción

En Argentina las enfermedades cardiovasculares representan el principal problema de salud de las mujeres. Desde el año 2007 mueren más mujeres que hombres en nuestro país por causa cardiovascular y de acuerdo a las últimas estadísticas vitales publicada, muere una mujer cada 11 minutos. Evaluar si las mujeres perciben que pueden sufrir enfermedades cardiovasculares así como valorar el grado de conocimiento que tienen sobre estas patologías fueron los objetivos de una encuesta telefónica realizada en una muestra representativa de mujeres de Buenos Aires. Los resultados obtenidos en 600 encuestadas mostraron que la gran mayoría de las mujeres tiene un adecuado grado de conocimiento acerca de los factores de riesgo cardiovascular, los síntomas de enfermedad coronaria y accidente cerebrovascular y las conductas que previenen o reducen la probabilidad de enfermarse. Sin embargo, gran parte de las mujeres y en especial las jóvenes, perciben al cáncer de mama como un problema de salud mucho más que a las enfermedades cardiovasculares. Los resultados obtenidos también muestran que la información que tienen las mujeres sobre las enfermedades cardiovasculares raramente proviene de sus médicos y mayoritariamente se origina en los medios masivos de comunicación.

El hecho de que las mujeres incrementen su percepción sobre el riesgo de padecer enfermedades cardiovasculares podría traducirse en una mayor adopción de conductas preventivas y ante la eventualidad de presentar un evento cardiovascular agudo, en una pronta consulta y mayor y mejor acceso al tratamiento.

Palabras clave > Enfermedad cardiovascular – Mujeres – Género – Percepción – Conocimiento – Encuesta

Conflicts of interest

None declared.

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