



# **RISK FACTORS OF BREAST CANCER AMONG WOMEN: A META ANALYSES**

*BY*

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# MOTIVATION

- ❖ Philippine Society of Medical Oncology reported:
  - **3 out of 100** Filipino women will get breast cancer before **age 75**
  - **1 out of 100** will die before reaching 75
- ❖ Breast cancer:
  - accounts for 15% of all new cancer cases in the Philippines, and
  - 8% of all cancer deaths.





# **STATEMENT OF THE PROBLEM**

***The study investigated the risk factor of breast cancer among women using meta-analysis.***



## **Specifically,**

- 1. Profile of the breast cancer victims based on the following:**
  - 1.1. Family History**
  - 1.2. Education**
  - 1.3. Age First Menstruation/Menarche & At First Birth**
  - 1.4. Body Mass Index**
  - 1.5. Parity/ Number of Children**
  - 1.6. Smoking and Drinking Habits**
  - 1.7. Use of Coconut Milk**
  
- 2. Identify risk factors of breast cancer based on studies identified**



# SIGNIFICANCE OF THE STUDY

- ❖ With the rapid growth and alarming growth of epidemic of breast cancer among women, there is a need to revisit and strengthen the Philippine Cancer Control Program of the country.
- ❖ With the information collected from this study, it will be disseminated in the local and national fora through the assistance of the organizations that are directly attached to breast cancer program of the country such as: **Philippine College of Surgeons**, **Philippine Society of Medical Oncology**, **Philippine Breast Cancer Society**, **Philippine Society of Pathologists**, **the Ramon Aboitiz Foundation, Inc.** , **Department of Health**, etc.



# SCOPE AND LIMITATIONS

- ❖ This study is limited only to the studies of breast cancer cases among women from **2000–2016**.
- ❖ Variables of interest in this study are common in most researches in breast cancer.



# **METHODOLOGY**

- ❖ **This paper made use of meta-analysis to collect and analyze available data about breast cancer occurrences form 2000 to 2016.**
- ❖ **The objective of this study was to derive a pooled estimate closest to the unknown common truth based on how this error is perceived.**



# METHODOLOGY

- ❖ The following topics and respective variables were reviewed:
  - **Identification of studies:** authors, year, and publication
  - **Study characteristics:** design and data collection method
  - **Sample characteristics:** size, mean age and/ or age bracket, and selection methods.

In the studies on associations, these characteristics were reviewed only in the comparison groups





# **METHODOLOGY**

- ❖ **Distribution of the risk factors are investigated,**
  - **all the factors whose frequencies are specified in the study results.**
  - **For those in which only absolute frequency was presented, the proportions of factors were calculated.**



# RESULTS and DISCUSSIONS

**Table 1. General Characteristics of Studies Reviewed**

No.	Authors	Year	Design	Data Collection Method	Sample Size	Age Bracket	Sample Base	Sample Selection
1	Gibson et al	2009	Case - control	Interview, Clinical examination	1101	35 to 64	Population	Random
2	Matsuda et al	2006	Case - control	Interview, Questionnaire	480	25 to 65	Population	Recruitment
3	Kwan et al	2002	Case - control	Interview, Questionnaire Clinical examination	640	25 to 65	Population	Recruitment
4	Hampton et al	2007	Case - control	Interview, Clinical examination	10953	18 to 79	Population	Census
5	Laudico et al	2009	Cross sectional	Interview, Clinical examination	3479	-----	Population	Random



# RESULTS and DISCUSSIONS

*Table 2. Odds Ratio of Risk Factors of Breast Cancer in Studies Reviewed*

2a] Age at menarche					
Risk Factor	OR	p-value	Sample Size	Study	Design
< 13	1.00	---	34	Gibson et al	Case Control
13+	1.90	p = 0.495	71	Gibson et al	Case Control
< 12	0.80		83	Hampton et al	Case Control
12	1.01		116	Hampton et al	Case Control
13	1.18	p = 0.37	158	Hampton et al	Case Control
14+	0.92		120	Hampton et al	Case Control



# RESULTS and DISCUSSIONS

2b] Age at first birth					
Risk Factor	OR	p-value	Sample Size	Study	Design
<20	1.00		9	Gibson et al	Case Control
20-24	1.30		27	Gibson et al	Case Control
25-29	1.20		17	Gibson et al	Case Control
30+	3.30	p = 0.032	20	Gibson et al	Case Control
<25	1.00		65	Hampton et al	Case Control
25-29	0.93		192	Hampton et al	Case Control
30-34	1.01		113	Hampton et al	Case Control
35+	1.07	p = 0.63	48	Hampton et al	Case Control

**Age at First Birth.** In the Philippines, women who gave first birth at **30+** have higher risks of having breast cancer.



# RESULTS and DISCUSSIONS

2c] Parity					
Risk Factor	OR	p-value	Sample Size	Study	Design
0	1.00		31	Gibson et al	Case Control
1 to 2	0.40		30	Gibson et al	Case Control
3 to 4	0.40		34	Gibson et al	Case Control
5+	0.20	p < 0.001	19	Gibson et al	Case Control
0	1.00		69	Hampton et al	Case Control
1	1.06		59	Hampton et al	Case Control
2	0.99		140	Hampton et al	Case Control
3	0.87		104	Hampton et al	Case Control
4+	0.63	p = 0.002	115	Hampton et al	Case Control
0	3.30		115	Laudico et al	Cross sectional
1 to 2	2.70		161	Laudico et al	Cross sectional
3	1.30		161	Laudico et al	Cross sectional
4 to 5	1.30		244	Laudico et al	Cross sectional
5+	1.00	p < 0.05	193	Laudico et al	Cross sectional

**Parity.** Breast cancer risk is inversely proportional to the number of children a woman has. The **higher the number of children the smaller the chances** of having a breast cancer.



# RESULTS and DISCUSSIONS

2d] Level of Education					
Risk Factor	OR	p-value	Sample Size	Study	Design
Minimal	1.00		39	Gibson et al	Case Control
Vocational/High School	1.80		43	Gibson et al	Case Control
Tertiary	1.80	p = 0.049	23	Gibson et al	Case Control
Age Stopped Education					
<13	1.00		34	Gibson et al	Case Control
13+	1.90	p = 0.020	71	Gibson et al	Case Control

**Education.** The lower the level of education the lesser the risk of breast cancer.



# RESULTS and DISCUSSIONS

## 2e] Boiling Food Using Coconut Milk

Risk Factor	OR	p-value	Sample Size	Study	Design
Never	1.00	---	141	Matsuda et al	Case Control
Ever, 12 years	2.78	p = 0.028	26	Matsuda et al	Case Control
Ever, currently	1.08	p = 0.854	17	Matsuda et al	Case Control
Ever, 12 years & currently	3.30	p = 0.003	35	Matsuda et al	Case Control

**Boiling Food with Coconut Milk.** Mixing food with coconut milk seemed to increase chances of women to have BC.



# RESULTS and DISCUSSIONS

## 2f] Body Mass Index

Risk Factor	OR	p-value	Sample Size	Study	Design
< 25	1.00		92	Gibson et al	Case Control
≥ 25	1.00	p = 0.898	18	Gibson et al	Case Control
< 22.5	1.00		64	Hampton et al	Case Control
22.5 to 25.0	1.26		86	Hampton et al	Case Control
25.1 to 28.8	1.57		103	Hampton et al	Case Control
≥ 28.9	1.56	p = 0.003	98	Hampton et al	Case Control

**Body Mass Index.** In most countries but the Philippines, body mass index also increases the risk of breast cancer.





# RESULTS and DISCUSSIONS

## 2g] First Degree with BC

Risk Factor	OR	p-value	Sample Size	Study	Design
Any	3.00		37	Kwan et al	Case Control
< 50	4.00		23	Kwan et al	Case Control
≥ 50	2.00	p < 0.05	14	Kwan et al	Case Control
No	1.00		358	Hampton et al	Case Control
Yes	1.35		118	Hampton et al	Case Control
2 or more	1.79	p < 0.05	19	Hampton et al	Case Control

**First Degree Relatives.** Having a first degree relative with BC is also a risk factor of breast cancer. In fact, increases the chances of having the disease.



# RESULTS and DISCUSSIONS

## 2h] Smoking Status

Risk Factor	OR	p-value	Sample Size	Study	Design
Never	1.00		110	Gibson et al	Case Control
Ever	1.20	p = 0.486	13	Gibson et al	Case Control
Never	1.00		251	Hampton et al	Case Control
Former	1.09		140	Hampton et al	Case Control
Current	1.00	p > 0.05	92	Hampton et al	Case Control



# RESULTS and DISCUSSIONS

2i] Alcohol Intake					
Risk Factor	OR	p-value	Sample Size	Study	Design
No	1.00		115	Gibson et al	Case Control
Yes	0.50	p = 0.191	8	Gibson et al	Case Control
No	1.00		10	Hampton et al	Case Control
Any	1.09		25	Hampton et al	Case Control
1 to 7 drinks/week	1.09		20	Hampton et al	Case Control
> 7	1.09	p = 0.91	5	Hampton et al	Case Control

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# CONCLUSIONS

Based on the reviewed materials, the following conclusions are made:

**The following factors contribute to increase in the odds of having breast cancer and considered as risks for women:**

- 1) Age at First Birth.** In the Philippines, women who gave first birth at 30+ have higher risks of having breast cancer.
- 2) Parity.** Breast cancer risk is inversely proportional to the number of children a woman has. The higher the number of children the smaller the chances of having a breast cancer.
- 3) Education.** The lower the level of education the lesser the risk of breast cancer.



# CONCLUSIONS

- 4) **Boiling Food with Coconut Milk.** Mixing food with coconut milk seemed to increase chances of women to have BC.
- 5) **Body Mass Index.** In most countries but the Philippines, body mass index also increases the risk of breast cancer.
- 6) **First Degree Relatives.** Having a first degree relative with BC is also a risk factor of breast cancer. In fact, increases the chances of having the disease.



# CONCLUSIONS

The following factors have vague contribution or risks to breast cancer:

- **Age at First Menarche**, **Smoking Habits** and **Alcohol Intake**.
- These 3 factors are not found to be risks of breast cancer.
- Although most related literature and studies abroad mentioned that these 3 are also considered as risks factors of breast cancer.



# FUTURE DIRECTIONS

- Breast cancer is considered as the most fatal disease confronting the women of today.
- Many women have lost their battle in trying to fight the disease and have become statistics of breast cancer.
- Our only weapon to help fight the disease is dissemination through research.
- This study was conducted to make a wakeup call and again become aware of the risk factors of breast cancer.
- The intention of the investigators is for those who will be reading this paper to disseminate the results of researches about the risk factors of breast cancer.



# FUTURE DIRECTIONS

- **The only cure to any disease is prevention.**  
Upon reading this paper, people will be aware of the risk factors of breast cancer and will be able to share the findings to their relatives and friends. In this way, breast cancer can be prevented.
- This paper had identified some risks factors of breast cancer through past researches. It is recommended that genuine data should be used in future studies and may include more factors such as **environmental, genes and hormone structure**, and other socio-demographic variables.
- **Survival patterns of breast cancer victims should also be investigated to make the study more relevant and useful.**



“Today we fight. Tomorrow we fight.  
The day after, we fight. And if this  
disease plans on whipping us, it  
better bring a lunch, ‘cause it’s gonna  
have a long day doing it.”

*Jim Beaver, Life’s That Way: A Memoir*

# Thank you for listening!!

