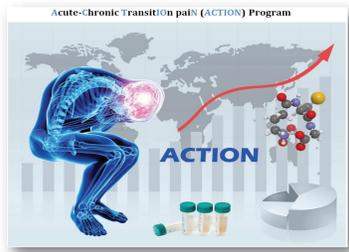


# Risk factors associated with the quality of life after breast cancer surgery-A prospective 3 month cohort study



Aggarwal N.,<sup>1,2</sup> Hickey D.,<sup>3,4</sup> Basik M.,<sup>5,6</sup> Boileau F.,<sup>5,6</sup> Gornitsky M.,<sup>1,2</sup> Sigman H.,<sup>5,6</sup> Kaur H.,<sup>1,2</sup> Mohit S.,<sup>2</sup> Hovey R.,<sup>1</sup> Velly A.M.<sup>1,2</sup>  
<sup>1</sup>Faculty of Dentistry, McGill University, <sup>2</sup>Department of Dentistry, Jewish General Hospital,  
<sup>3</sup>Department of Anaesthesia Jewish General Hospital, <sup>4</sup>Associate Professor, Department of Anaesthesia, McGill University  
<sup>5</sup>Department of Surgery, McGill University, <sup>6</sup>Department of Surgery, Jewish General Hospital (Canada)

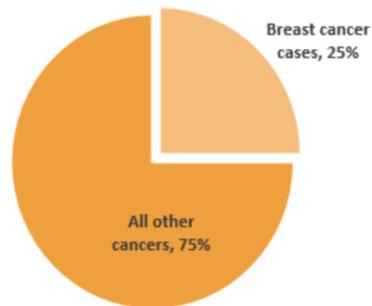


## INTRODUCTION

- Breast cancer (BC) is the most common cancer among women in Canada [1].
- BC mortality rates have decreased by 44% since the peak in 1987.[2]



Percentage of All Estimated New Cancer Cases in Women in 2017



Quality of life (QoL) is being used as a primary outcome measure in most of the studies to evaluate the effectiveness of treatment.[3]

## AIM

- This prospective cohort study was conducted to investigate the risk factors associated with quality of life among breast cancer patients after 3 months surgery.
- To identify the association between chronic pain and QoL.

## METHODS

- Patients recruited from the Segal Cancer Center at the Jewish General Hospital (JGH) accepted to participate in this study.
- Eligibility criteria:** signed a consent form, women 18 years of age or older, who were incident cases with breast cancer, and who were scheduled to undergo breast cancer surgery.
- The putative risk factor data was collected before surgery, on the day of surgery, one week and three months after surgery.
- Study outcome was Quality of life (QoL) measured at three months after surgery assessed by SF-12 questionnaire.
- Linear regression analyses were used to assess the contributors to QoL, and its parameters such as Physical component summary (PCS) and Mental component summary (MCS).

## RESULTS

Total of 199 patients recruitment in the study. 180 patients completed the questionnaire for acute pain and 162 patients completed the 3 months follow-up.

Figure 1: Mean of age, PCS, MCS, QoL.

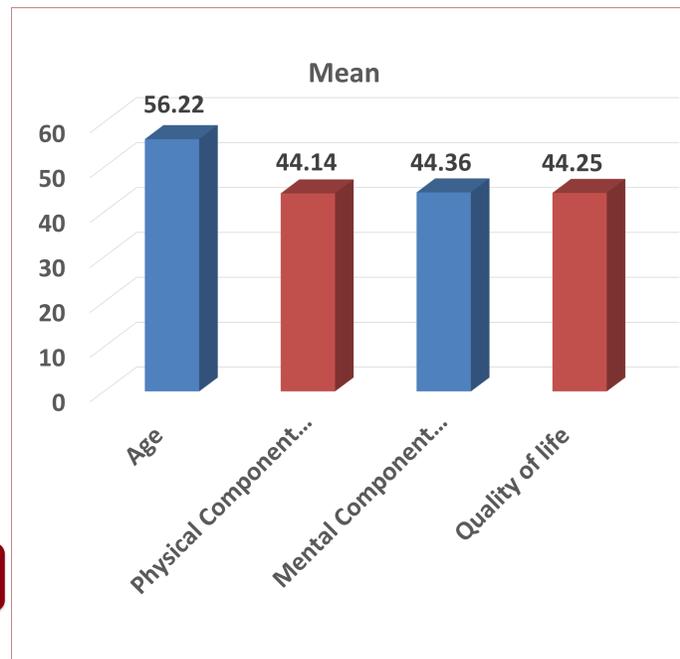


Figure 2: Number of patients with or without chronic pain after breast cancer surgery (CPBCS)

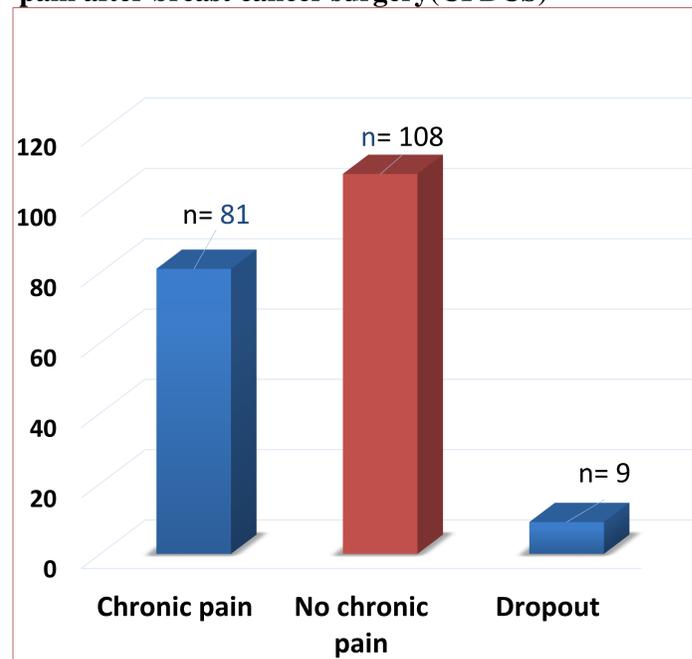
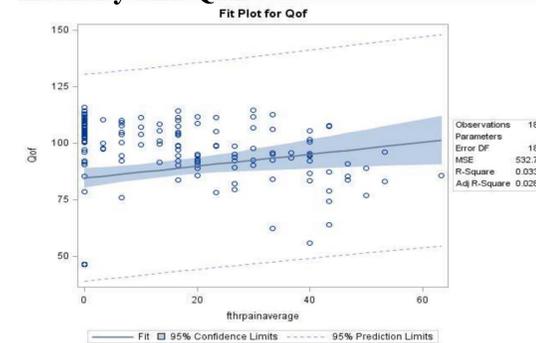


Figure 3: Association between CPBCS intensity and QoL



## CONCLUSION

- At baseline, depression was negatively associated with PCS, MCS and QoL at 3 months after breast cancer surgery.
- On the day of surgery, axillary status was negatively associated PCS only at 3 months following surgery whereas surgery length positively affected the PCS and QoL.
- After surgery, chemotherapy positively affected MCS and QoL but radiotherapy was associated with PCS, MCS and QoL.
- CPBCS showed association with the PCS, MCS and QoL.

## REFERENCES

- CANADA S. cancer incidence 2014. 2014. <http://www.cancer.ca/en/cancer-information/cancer-type/breast/statistics/?region=on>.
- <http://www.cbcf.org/ontario/AboutBreastCancerMain/Facts/Stats/Pages/Breast-Cancer-Canada.aspx..>
- MS Heydarnejad, Dehkordi A Hassanpour, and Dehkordi K Solati **Factors affecting quality of life in cancer patients undergoing chemotherapy**, MS Heydarnejad, Dehkordi A Hassanpour, and Dehkordi K Solati

## ACKNOWLEDGEMENTS

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Table 1. Adjusted linear regression model showing the association for QoL, PCS and MCS with baseline putative predictors.

Variables	Beta	P-value
Depression**	QoL= -9.98	0.01
	PCS = -4.85	0.02
	MCS = -5.75	0.007

Note: Age, anxiety, pain before surgery onset and intensity were not associated with quality of life at 3 months after BC surgery.  
**\*\*P < 0.05**

Table 2. Linear regression analysis assessing association between QoL, PCS and MCS with intra and post-operative putative predictors.

Variables	Beta	P-value
Axillary status*	PCS = -6.16	0.02
Surgery length**	QoL= 0.15	0.03
	PCS = 0.130	0.02
Cancer stage*	MCS = 4.33	0.05
	Chemotherapy*	QoL= 6.860
Radiotherapy**	MCS = 4.994	0.01
	QoL = 13.924	<0.01
	PCS = 6.122	0.0004
	MCS = 7.802	<0.01

Note: Type of surgery, acute pain onset and intensity were not associated.  
 \*P= 0.05, \*\*P<0.05  
 The results not indicated above, have p-value more than 0.05