Patient navigation significantly improves vulnerability score after breast cancer. A pilot experience in an underprivileged community.

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Abstract

BACKGROUND: We decided to evaluate the effect of patient navigation in an area (Seine-Saint-Denis, SSD) with an estimated population of 1.4 billion, which is among the poorest in France. Median household income is 68% lower than in Paris (+68%), a gap growing with time. In SSD, cancer is the leading cause of premature mortality. Whereas it is widely admitted in France that 25% of patients are faced with financial difficulties after breast cancer, this proportion reaches 40% in SSD.

PATIENTS AND METHODS: Oncologie 93 is a non-profit organization whose aim is to provide supportive care, health education and individualized assistance to patients and families, and to facilitate timely access to quality medical and psychosocial care. Vulnerability was evaluated using a 11-item standardized score (EPICES) previously investigated by French Health Examination Centers. Strictly speaking this score was aimed at measuring precarity, a concept referring to a social condition assumed to face worsening. This score is more strongly related to health status than the administrative classification of poverty (Sass, Sante Publique 2006). Vulnerability was defined by a score >30 and considered as severe when >40. In SSD two thirds of the population are affected by vulnerability. Patients included in the navigation program were scored after cancer diagnosis (E1) and 1 year after the beginning of cancer therapy (E2). Psychosocial comorbidities, demographic data, and treatments received were also recorded. RESULTS: Over a 1-year period 74 breast cancer patients were included and had E1 and E2 scores, detail of therapy was available for 64 pts. The score significantly improved for the whole population (p=0.04) but worsened in 23 pts (31%). Among all the variables studied, undergoing surgery was the only one to be significantly correlated with outcome. However, surprisingly, patients who did not undergo surgery had a significantly better evolution of the score than those who did (p=0.04). E1 score was lower in patients eligible for surgery.

Evolution of median vulnerability score before (E1) and after (E2) breast cancer therapy, first and third quartiles (Q1-Q3) and minimal-maximal values.

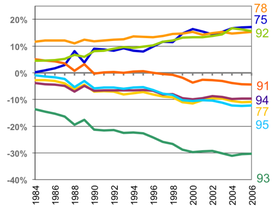
	n=	E1	Q1-Q3	min-max	E2	Q1-Q3	min-max
whole population	74	39.6	15.8-63.5	3.17-92.2	32.8	7.1-45.8	1.6-92.1
no surgery	24	47.9	25.8-57.8	3.17-75.1	15.1	3.6-40.2	2.7-78.7
surgery	40	37	14.5-63.9	3.17-92.2	33.4	8-47.3	1.6-92.9

CONCLUSION: We showed that patient navigation significantly improves vulnerability score during cancer therapy. It emphasizes the importance of evaluating deprivation with standardized tools in cancer patients in order to propose appropriate interventions. The only factor correlated with the evolution of the score is surgery. Patients that were not eligible for surgery had higher E1 score but significantly better evolution during the following year. We hypothesize that deprivation leads to more advanced tumors or is associated with comorbidities contraindicating breast surgery. For unclear reasons, the magnitude of the benefit seems greater in this population. About one third of patients experience worsening of the vulnerability after breast cancer therapy and the underlying mechanisms remain to be determined.

Background

We decided to evaluate the effect of patient navigation on breast cancer patients in an area (Seine-Saint-Denis, SSD) with an estimated population of 1.4 billion, which is among the poorest in France. Median household income is 68% lower than in Paris, a gap growing with time. In SSD, cancer is the leading cause of premature mortality. Yet, the area has no more than one academic cancer center

Evolution of household income*
In Paris (75) and its area (SSD: 93)



Data from the Regional Health Observatory

Oncologie 93 is a non-profit organization whose aim is to provide supportive care, health education and individualized assistance to patients and families, and to facilitate timely access to quality medical and psychosocial care including:

- Administrative formalities (*eg* health insurance)
- Psychological help
- Support groups for patient's children and relatives
- Health counseling (*eg* nutrition, physical activity)

Patients and Methods

A phone survey was conducted using semi-structured interviews.
Vulnerability was evaluated using a 11-item standardized score (EPICES) previously investigated by French Health Examination Centers. Strictly speaking this score was aimed at measuring precarity , a concept referring to a social condition assumed to face worsening.

A 11-ITEM VULNERABILITY SCORE

'	Question	Yes	No
1	Do you occasionally meet a social worker?	10,06	0
2	Do you have a private complementary health insurance? *(for fees not covered by the mandatory system in France)*	-11,83	0
3	Do you have a partner?	-8,28	0
4	Do you own your house?	-8,28	0
5	In a month, are you faced with real financial difficulty regarding household necessities (*eg* food, rent, electricity…)?	14,80	0
6	Did you practice physical activity over the last 12 months?	-6,51	0
7	Did you go to a show over the last 12 months?	-7,10	0
8	Did you go on holiday over the last 12 months?	-7,10	0
9	Over the last 6 months, have you been in contact with other family members than your parents or your children?	-9,47	0
10	In case of straits, can someone provide you a shelter?	-9,47	0
11	In case of straits, can someone provide you any kind of material assistance?	-7,10	0
	Constant	75,14	
	Total		

For each « yes », add the corresponding value to the constant.
Vulnerablity is defined by a score >30 and is considered as severe when >40. This score is more strongly related to health status than the administrative classification of poverty.

(Saas et al, Santé Publique 2006)

- 47% of cancer patients in the area and 69% of patients included in the navigation program have a score >30
- Patients included in the navigation program were scored after cancer diagnosis (E1) and 1 year after the beginning of cancer therapy (E2).
- Psychosocial comorbidities, demographic data, and treatments received were also recorded.

Results

- Over a 1-year period 74 breast cancer patients had E1 and E2 scores, detail of therapy was available for 64 pts.
- The score significantly improved for the whole population (p=0.04) but worsened in 23 pts (31%).
- Undergoing surgery was significantly correlated with outcome. Patients who did not undergo surgery had a significantly better evolution of the score than those who did (p=0.04). E1 score was lower in patients eligible for surgery.

EVOLUTION OF MEDIAN VULNERABILITY SCORE BEFORE (E1) AND AFTER (E2) BREAST CANCER THERAPY FIRST AND THIRD QUARTILES (Q1-Q3) AND MINIMAL-MAXIMAL VALUES

	N=	E1	Q1-Q3	Min-Max	E2	Q1-Q3	Min-Max
Total	74	39.6	15.8-63.5	3.17-92.2	32.8	7.1-45.8	1.6-92.1
No surgery	24	47.9	25.8-57.8	3.17-75.1	15.1	3.6-40.2	2.7-78.7
Surgery	40	37	14.5-63.9	3.17-92.2	33.4	8-47.3	1.6-92.9

Conclusions

- Patient navigation significantly improves vulnerability score during cancer therapy.
- Deprivation should be evaluated with standardized tools in cancer patients in order to propose appropriate interventions.
- We hypothesize that deprivation leads to more advanced tumors or is associated with comorbidities contraindicating breast surgery.
- About one third of patients experience worsening of the vulnerability after breast cancer therapy and the underlying mechanisms remain to be determined.