Michel PIDOUX
Anita JOUAN

Multicentric study on the prevention of infections through the diffusion of SARO® essential oil in nursing homes

The origin of this study: the impact of COVID-19 in 2020 on nursing homes

Establishment	COVID cases / healthcare workers	COVID cases / close contacts	COVID cases / deaths / residents	Use EO
Ecouflant	2 personnels extérieurs à l'établissement	0	0	dry olfaction on compress (Saro EO) May-June 2020
Villevêque (Saro non utilisé)	0	2	0	Diffusion + topical application to inhale (throughout 2020)
Châteauneuf/Sarthe	0	0	0	EO saro and lemon litsea spray on fabric evaporation mobiles: May 2020 to July 2021
NANTES (44) Coulaines	0	0	0	Diffusion of a pranarôm-automate blend: all year round; anti-infectious EO in winter; citrus EO in summer

OBJECTIVE: to reduce the number of infections in nursing homes

Reducing the number of infections also improves residents' quality of life, *avoiding the use of antibiotics* and antibiotic resistance.

It also reduces the *workload of caregivers*, while allowing them to benefit from the same anti-infectious effect.

See Scientific Aromatherapy in Healthcare Settings, long version, June 2018:

From 2022, start of a protocol for the administration *of Saro only*, with the organisation *of a CONTROL* group without administration and an *administration group* in each nursing home.

_ All healthcare teams received prior training in aromatherapy (IFSO-Angers): Thank you to the trainers, Anita Jouan and Eric Gernigon!

_ Tam Tam Phytoaroma covered the cost of the diffusion devices (Soléo), precision scales (for measuring the quantities of essential oil diffused), and travel expenses.

_ Saro essential oil from Madagascar was provided free of charge to each nursing home by Tam Tam Phytoaroma (donation from Aroma Forest-Olivier Behra).

Why *DIFFUSE* essential oils?

‘Unlike the vast majority of
antimicrobial agents used for air disinfection; essential oils are **low to non-toxic**... .
The atmospheric diffusion of particularly active essential oils is recognized as **effective** against
microbial germs suspended in the ambient air.’

See "Scientific aromatherapy in healthcare settings, long version, June 2018:

WHY SARO®? A balanced composition with broad anti-infectious properties

A Madagascan essential oil that is little known in France but the subject of publications, for example: Phytothérapie magazine v13, 2015 and Int. Journal of Clinical Aromatherapy 2011.

See book: Essential Oils of Madagascar, Uses and Clinical Results, M. Pidoux, 2020.

-Main composition of *our batch*: chemotype 1,8 cineole (35%) balanced by terpenes (18%) and alcohols (22%).

Properties: antibacterial, antiviral, antifungal, antiparasitic, *immunomodulatory*.
Indications: all types of infection

Unité LES PRIMEVERES (VERGER) - Rez de Chaussée

Segré

L Nicole 15	G Marie France 14	G Marcel 13	B Raymond 12	D Joëlle 11
				

G Gérard 10	
J Madeleine 9	
B Cécile 8	
H Roger 7	
B Serge 6	
A Jacqueline 5	

Entrée de l'Unité

corridor

B André 23		CHAMBRE COMMUNE CANTE
V Madeleine 22		
P Christiane 21		
L Colette 20		
G Marcelle 19		
M Gilles 18		
G Yvonne 17		
P Monique 16		

B Roselyne 1	P Pierre 2	G Marie-Louise 3	S Marie Annick 4
			

Group Diffusion: study of the location of Soléo BROADCASTERS

Intense spraying every 10 seconds for 1 hour, at 11 a.m. and 5 p.m. (=2 hours/day)

18/09/2024

8-week study - autumn-winter

AROMATHERAPY evaluation sheet: Diffusion of Saro Cinnamosma frangrans essential oil, prevention of winter respiratory illnesses, psycho-emotional quality of life

Resident name

Vaccinations effectuées dans les 6 mois passés : .....

Ultrasonic diffusion of essential oils de l'appareil ..... ; Lieu(x) de diffusion : **Corridor name** ; Durée et nombre de diffusions/jour : 1h, 2 fois/jour (11h-12h et 17-18h); protocole 1 (**(spray ev.10sec)**)

OBSERVATIONS :	AVANT Diffusion DATE :	Semaine1 DIFFUSION DATE :	S 2 DIFFUSION DATE :	S 3 DIFFUSION DATE :	S 4 DIFFUSION DATE :	S 5 DIFFUSION DATE :	S 6 DIFFUSION DATE :	S 7 DIFFUSION DATE :	S 8DIFFUSION DATE :4
Pathologie (grippe, Covid...) ou symptômes									
Signaler : Troubles du sommeil Anxiété Angoisse Etat dépressif Autres :									
Appréciation olfactive par le résident ou par observation									
POIDS des flacons sans bouchon	Poids du flacon PLEIN :	Pesée fin semaine :	Pesée fin semaine :	Pesée fin semaine :	Pesée fin semaine :	Pesée fin semaine :	Pesée fin semaine :	Pesée fin semaine :	Pesée fin semaine :
-flacon 1 : -flacon 2 : -flacon 3 : -flacon 4:									

Weight of essential oil diffused over 7 days for 2 hours/day–converted to g/h then m3 of air

Groupe Témoin: Environ le même nombre de résidents que dans le Groupe Diffusion

AROMATHERAPY evaluation sheet: Diffusion of Saro Cinnamosma frangrans essential oil, prevention of winter respiratory illnesses, psycho-emotional quality of life

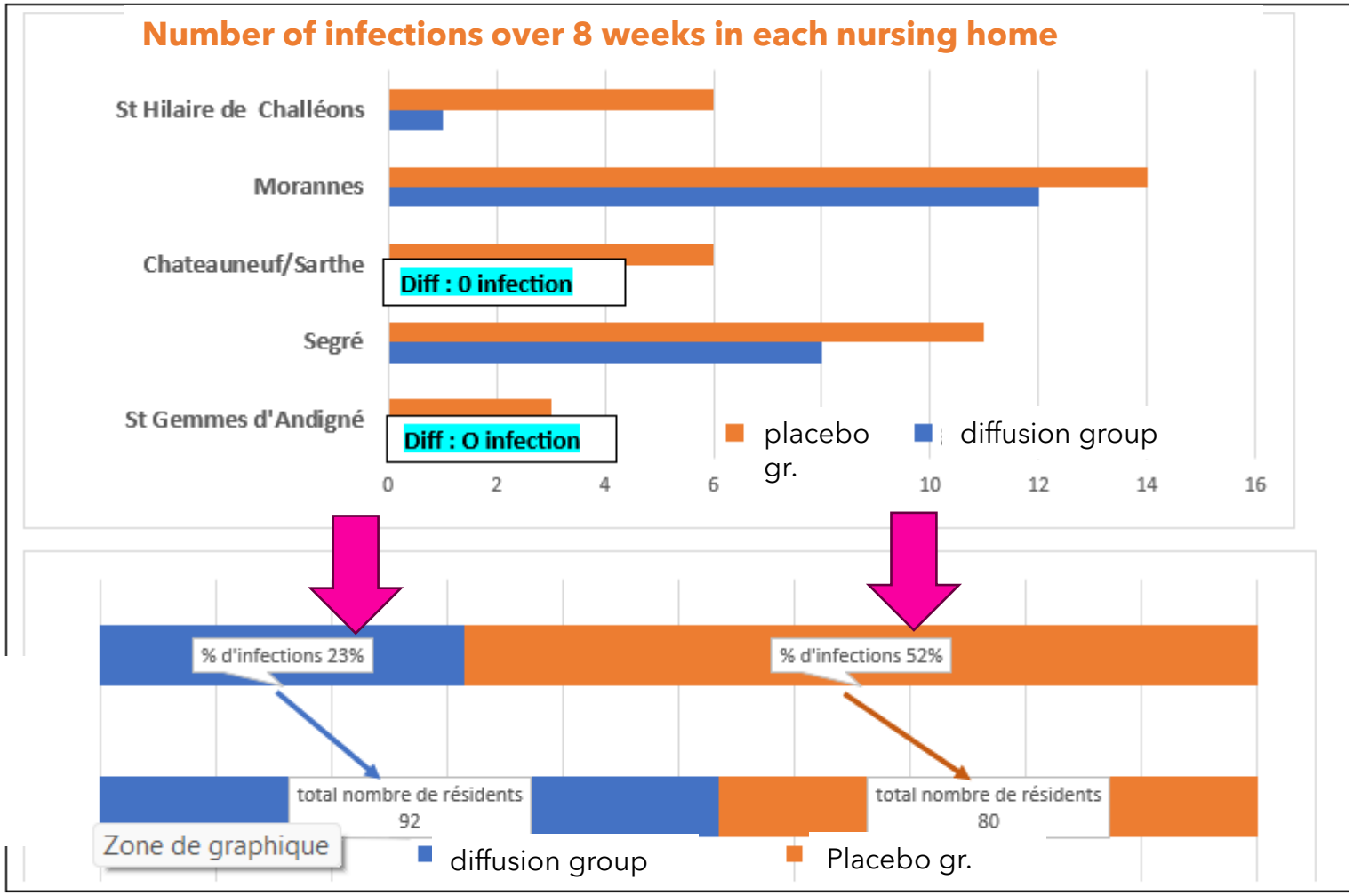
PLACEBO GROUP FORM as de Diffusion): nombre de résident-e-s = ...

NOM de l'EHPAD :.....ville : :..... Prénom du-de la - résident-e : .....

Vaccinations effectuées dans l'année et dates :.....

OBSERVATIONS :	AVANT Diffusion dans Gr. Diffusion DATE :	Semaine1 DATE :	S 2 DATE :	S 3 DATE :	S 4 DATE :	S 5 DATE :	S 6 DATE :	S 7 DATE :	S 8 DATE :
Pathologie (grippe, Covid...) ou symptômes									
Signaler : Troubles du sommeil Anxiété Angoisse Etat dépressif Autres :									
Remarques observations									

<u>2023-2024</u>: 172 residents affected.
> Half as many infections in the Diffusion group



The olfactory assessment of Saro essential oil was generally favorable.

<u>Results</u>: various infections, colds, bronchitis, pneumonia, gastroenteritis, COVID; similar flu-COVID vaccination rates in both groups.

2024-2025:

320 residents affected

5 times fewer infections

Placebo Group	Diffusion Group
35% infections	7% infections

Consolidation of results for 2023-24 and 2024-25

with 492 residents involved:

> 3 times fewer infections with the use of Saro•

Number of infections

EHPAD	DIFFUSION	TEMOIN
Chateauneuf/Sarthe	3 cas/35	9cas/25
Morannes	16 cas/57	17 cas/54
St Gemmes d'Andigné	2 cas/47	13 cas/24
Segré	8 cas/45	12 cas/44
	0 cas/19	22 cas/44 res.
Saint georges sur Loire	0 cas/ 44 res.	10 cas/44 res
St Hilaire Challéons	1cas/10	6cas/6
	30 cases/257	**89 / 235**
% residents INFECTED	**11,6%**	**38%**

3.6 Benefits of measuring residual VOC levels during atmospheric diffusion of essential oils ex.: Risks for asthmatics / monoterpenes

Accurate measurements of essential oil weights diffused over 8 weeks

↓

Average

weight of EO diffused in 7 days (i.e. 14 hours) → weight/hour/**monoterpenes 18%**

↓

Weight per 10 min/m3 of air

↓

Maximum: 670 micrograms per cubic metre

Calculation of risk for a resident who would park for 10 minutes in the corridor where the Diffusions took place

Exposure < 3000 micrograms/m3?

Conclusion 1.

We are waiting for aromatherapy ***as well*** **against antibiotics Resistance!!**

3.4 The benefits of essential oils in combating nosocomial infections

The path opened up by this research deserves to be followed up by other scientific studies that could provide a framework for safe practices that are beneficial to patients, professionals and the health economy. This method of combating infections through the atmospheric diffusion of anti-infectious essential oils, used judiciously, could be put to good use more systematically in the fight against nosocomial infections.

See 'Scientific aromatherapy in healthcare settings, long version, June 2018.'

-**Conclusion 2: The autonomy of healthcare teams** can help extend the benefits of this **dissemination** to all departments and over more winter weeks, in order to better identify epidemic periods (flu, COVID-19, and future new viruses!).

Thank you for your attention, Tam Tam Phytoaroma remains at your disposal