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Rural isolation and maternal and neonatal health in a perinatal network: a population based study

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CONTEXT

Rurality = factor of vulnerability among pregnant women

Access to perinatal healthcare service:

- ✓ High heterogeneity of perinatal care organization
- ✓ Cluster of healthcare professionals near urban area
- ✓ Closure of small maternity ward

Increase risk of adverse perinatal outcomes for mother and newborns when women live at more than 30 min driving time from a maternity

POPULATION AND METHODS

Women who gave birth between 01/01/2015 and 12/31/2020 in a perinatal network

- ✓ Geolocation of women by their postal address
- ✓ Geolocation of each perinatal professional and facilities by their professional address
- ✓ Geolocation of each municipality by its geographic centre as the reference

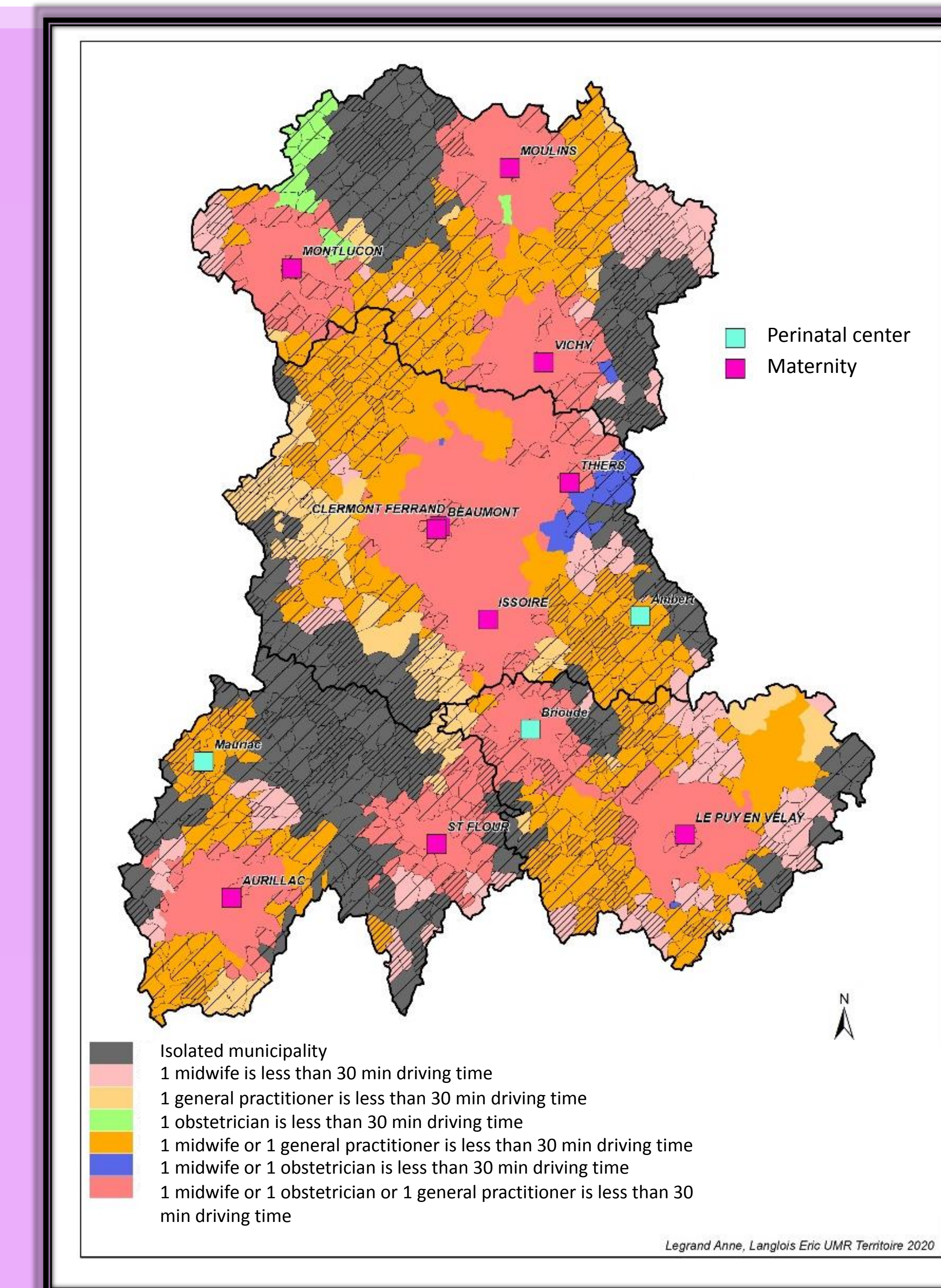
A driving time of no more than 30 minutes = cutoff defined to qualify a professional or a health care facility as accessible

For each municipality: number of professionals and facilities accessible with a maximum 30-minute driving time

Municipality in a vulnerable zone: not at least one professional (≤ 1) or facility that was accessible within 30 min driving time

OBJECTIVE

To describe maternal and neonatal health when living in rural area in metropolitan France



RESULTS

Socio-demographic characteristics of women	isolated municipalities %	non isolated municipalities %	P
Obesity	16,8	13,5	<0,0001
Country of birth (France)	94,1	79,3	<0,0001
Household income (salary)	75,9	64,9	<0,0001
History of disease	38,8	36,3	0,02
Smoked at the beginning of pregnancy	32,7	27,2	<0,0001

Pregnancy and delivery	isolated municipalities %	non isolated municipalities %	p
Pregnancy-related disorders	40,2	41,9	0,36
Caesarean before labour	12,1	10,2	0,02
Anesthesia	81,6	84,7	0,001
Caesarean (global issue)	21,3	18,6	0,008
Maternal morbidity*	21,8	18,6	<0,0001

*Hypertension, Preeclampsia, Gestational diabetes, severe post-partum hemorrhage, death or transfer to an intensive care unit

Neonatal issue	isolated municipalities %	non isolated municipalities %	p
Outborn	1,3	0,7	0,005
IUGR	1,2	0,7	0,02
Neonatal morbidity*	16,8	16,0	0,4
Exclusive maternal breastmilk	51,1	58,7	<0,0001

*Gestational age <37WG, Birth weight <10th ou >90th P, Intra-uterine death or per-partum death, transfer to an intensive care unit

CONCLUSION

- Poor maternal health for women living in rural area as compared to urban population

Women have no access to primary care

There are more adverse delivery outcomes as maternal health is poor

- Poor neonatal health is associated with poor maternal health and no post-partum parental support

