

Background

- Menopause by definition is the stage in a woman's life when she is adapting to the physical, mental, emotional and hormonal changes association with a complete cessation of menstruation.
- Menopause is one of the most important phase in reproductive life cycle of women where they go through the transition of reproductive to non-reproductive state.
- This menopausal experience among women is determined by their reproductive histories, the conditions under they live, the condition under which they work, their dietary pattern, their socio-economic circumstances and also their access to adequate health care.
- Menopause introduces a major change in the morbidity pattern. Those women who experience menopause prematurely by induce or surgical reasons like hysterectomy, oophorectomy etc. have a comparatively longer duration of exposure to severe symptoms than those who undergo natural menopause.
- Despite the fact that menopause has profound effects on women's health as it introduces a period when several new health problems emerge, the health of women in the later reproductive age and in post-menopause are still ignored by all existing health care programmes in the country.
- Though there are several studies on menopause in Indian context, a few studies are available on natural and surgical menopause. Therefore, it is essential to know the exact pattern of natural and surgical menopause among Indian women as well as to explore more about its correlates.

Objective

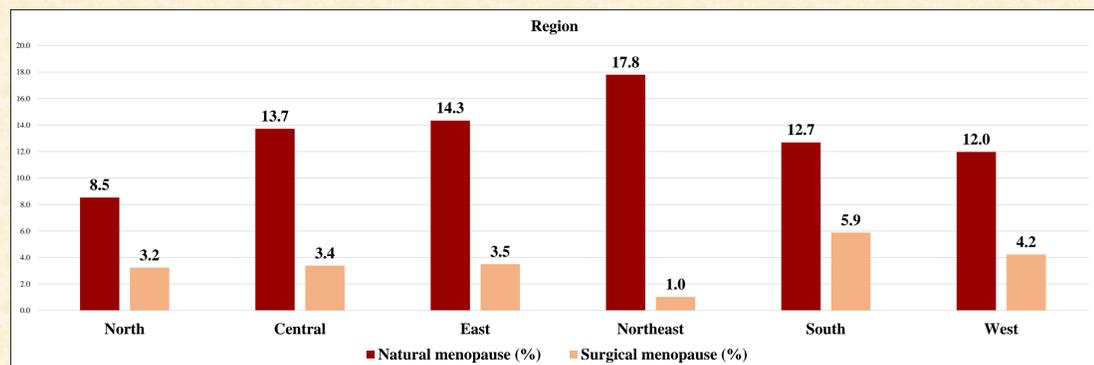
- This study attempted to determine the prevalence and factors associated with natural as well as surgical menopause among women aged 30-49 years in India.

Data source & Methodology

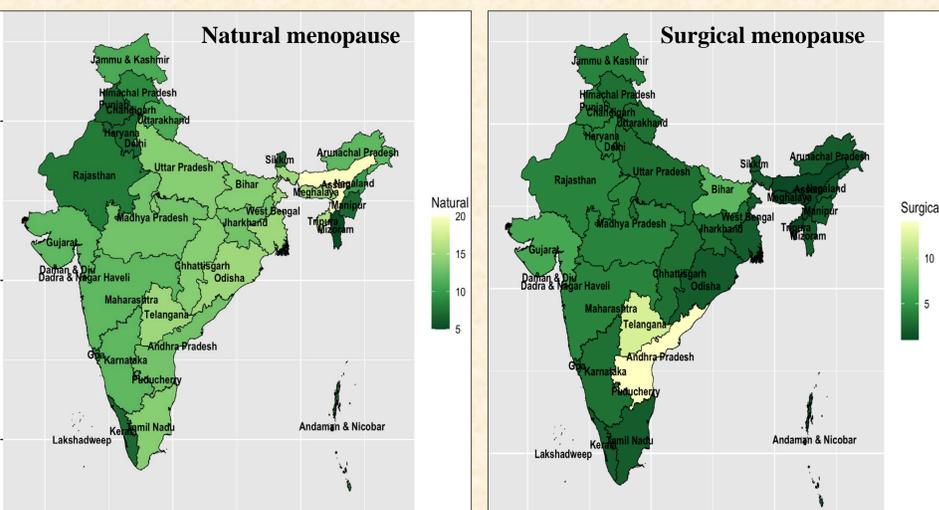
- The data for the present study were drawn from the fourth round of National Family Health Survey (NFHS-4), conducted during 2015-16 across all states/UTs of India.
- Those who reported that they were 'in menopause', 'had hysterectomy', 'never menstruated' and those who had not menstruated in the past 12 months were considered to have had menopause. In addition, those who reported that they were pregnant, in post-partum amenorrhoea or had been menstruating in the past 12 months were considered not to be in menopause.
- For the analysis of this study, out of all menopausal women, those who reported hysterectomy were considered under 'surgical menopause' and the rest were considered under 'natural menopause'.
- Descriptive statistics were used to determine the percentage of women experiencing natural as well as surgical menopause for all states/UTs and regions of India.
- Multivariate analysis in the form of multinomial logistic regression was conducted to find the factors associated with natural and surgical menopause.

Results

State/UTs	Natural menopause (%)	Surgical menopause (%)	N
Chandigarh	7.1	1.8	385
Delhi	13.1	1.6	2,899
Haryana	7.1	3.7	10,097
Himachal Pradesh	9.1	2.8	5,604
Jammu & Kashmir	10.8	3.5	11,107
Punjab	7.0	4.2	10,210
Rajasthan	7.6	3.6	19,000
Uttarakhand	10.6	3.4	8,103
Chhattisgarh	13.6	2.9	11,551
Madhya Pradesh	13.4	3.8	29,475
Uttar Pradesh	13.9	3.3	41,958
Bihar	13.7	6.8	20,215
Jharkhand	12.9	2.8	13,282
Odisha	14.5	1.7	16,837
West Bengal	15.3	1.6	8,714
Arunachal Pradesh	11.7	1.9	7,291
Assam	20.3	0.8	13,942
Manipur	7.4	2.2	7,156
Meghalaya	15.1	1.0	4,087
Mizoram	5.0	1.7	6,314
Nagaland	9.7	2.5	5,518
Sikkim	6.9	2.1	2,559
Tripura	16.3	1.3	2,425
Andaman & Nicobar	7.4	1.9	1,563
Andhra Pradesh	13.1	13.7	5,618
Karnataka	12.4	2.9	13,567
Kerala	6.9	2.2	6,399
Lakshadweep	4.7	1.3	596
Puducherry	8.6	1.7	2,244
Tamil Nadu	14.3	2.5	15,724
Telangana	14.7	11.7	3,762
Dadra & Nagar Haveli	6.7	5.8	361
Daman & Diu	4.7	3.1	677
Goa	7.9	2.4	989
Gujarat	12.0	5.6	11,788
Maharashtra	12.1	3.6	14,760
India	12.8	4.1	336,777



Background characteristics	Natural menopause		Surgical menopause	
	%	RRR (95% CI)	%	RRR (95% CI)
Age groups				
30-34	1.7	Ref.	1.6	Ref.
35-39	4.2	2.793*** (2.623-0.973)	3.2	2.013*** (1.878-2.157)
40-44	13.6	10.576*** (9.988-11.199)	5.3	3.569*** (3.339-3.816)
45-49	23.9	17.355*** (14.768-20.091)	7.0	7.031*** (6.576-7.518)
Marital status				
Never married	10.9	Ref.	0.6	Ref.
Currently married	12.0	1.657*** (1.374-1.998)	4.1	2.261*** (1.450-3.526)
Widowed/divorced/separated	22.9	1.911*** (1.582-2.309)	4.8	1.912** (1.221-2.993)
Education				
No education	17.3	Ref.	5.0	Ref.
Primary	13.6	0.899*** (0.868-0.931)	4.7	0.843*** (0.796-0.892)
Secondary	9.0	0.767*** (0.741-0.793)	3.3	0.640*** (0.606-0.675)
Higher	5.0	0.563*** (0.524-0.605)	1.8	0.448*** (0.400-0.502)
Caste				
SC	13.5	Ref.	3.5	Ref.
ST	13.7	0.916*** (0.876-0.958)	2.9	0.786*** (0.723-0.855)
OBC	12.6	1.005 (0.971-1.040)	4.7	1.249*** (1.180-1.322)
Others	12.3	1.094*** (1.052-1.138)	3.8	1.204*** (1.129-1.283)
Religion				
Hindu	12.9	Ref.	4.2	Ref.
Muslim	13.2	0.951* (0.914-0.988)	3.1	0.724*** (0.679-0.773)
Christian	11.5	0.677*** (0.637-0.718)	4.1	0.903 (0.805-1.012)
Others	9.5	0.786*** (0.738-0.837)	3.2	1.122* (1.018-1.236)
Wealth Index				
Poorest	13.6	Ref.	2.6	Ref.
Poorer	14.7	1.121*** (1.080-1.164)	3.8	1.507*** (1.402-1.620)
Middle	13.9	1.095*** (1.052-1.141)	4.8	1.923*** (1.786-2.071)
Richer	12.2	1.037 (0.990-1.085)	4.8	2.294*** (2.119-2.483)
Richest	10.1	0.950 (0.900-1.002)	4.0	2.552*** (2.333-2.791)
Place of Residence				
Urban	11.7	Ref.	3.5	Ref.
Rural	13.4	0.991 (0.960-1.022)	4.4	1.285*** (1.224-1.349)
Regions				
North	8.5	Ref.	3.2	Ref.
Central	13.7	1.396*** (1.341-1.452)	3.4	1.186*** (1.115-1.263)
Northeast	17.8	1.584*** (1.506-1.666)	1.0	0.696*** (0.629-0.770)
East	14.3	1.494*** (1.431-1.560)	3.5	1.428*** (1.332-1.530)
West	12.0	1.468*** (1.395-1.546)	4.2	1.551*** (1.437-1.674)
South	12.7	1.422*** (1.359-1.488)	5.9	1.562*** (1.460-1.672)
Smoking				
No	12.7	Ref.	4.1	Ref.
Yes	23.1	1.088* (1.011-1.170)	4.9	1.277*** (1.118-1.457)
Drinks alcohol				
No	12.7	Ref.	4.1	Ref.
Yes	19.5	1.202*** (1.129-1.280)	4.4	0.918 (0.796-1.058)
Children Ever Born (CEB)				
No child	14.4	Ref.	1.7	Ref.
1-2 children	9.6	1.837*** (1.711-1.971)	3.8	3.758*** (3.226-4.377)
3 or more	15.2	1.586*** (1.481-1.698)	4.5	3.552*** (3.055-4.129)
Age at first birth				
<18	18.4	Ref.	6.4	Ref.
18-21	12.6	0.539*** (0.523-0.556)	4.2	0.629*** (0.600-0.660)
22-25	9.8	0.351*** (0.339-0.364)	3.2	0.409*** (0.385-0.434)
>25	8.3	0.249*** (0.237-0.261)	1.9	0.231*** (0.211-0.253)
Hormonal contraceptive				
No	13.5	Ref.	4.4	Ref.
Yes	8.1	0.639*** (0.614-0.666)	2.1	0.567*** (0.529-0.608)
Sterilization				
No	14.0	Ref.	4.0	Ref.
Yes	11.5	0.516*** (0.503-0.530)	4.2	0.518*** (0.497-0.541)
Body Mass Index (BMI)				
Underweight	15.1	Ref.	3.2	Ref.
Normal	12.1	0.769*** (0.743-0.795)	3.6	1.036 (0.972-1.104)
Overweight/obese	12.8	0.785*** (0.754-0.817)	5.4	1.358*** (1.267-1.456)



Conclusion

- In conclusion, this study provides compelling evidence that a sizeable proportion of women aged 30-49 years are in their post-menopausal stage and many of them have undergone surgical menopause.
- This may have adverse effects on physical, reproductive and psychological health of women and India may have to anticipate the provision of relevant health services to cope with the health needs of growing menopausal and post-menopausal women.