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Age at Menopause and associated symptoms: A study from Rural North Karnataka

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Abstract: Peri-menopause symptoms are the basis for healthcare providers and public health personnel to enable appropriate healthcare, including improving psychological makeup of woman. Hence, the study was conducted with an objective to study age at menopause along with factors affecting quality of life. Cross-sectional study has been carried out to investigate the factors affecting peri-menopausal age and symptoms, during October 2016 to April 2017, by Proportional to Population Size Inverse Cluster Sampling. A total of 712 peri-menopausal women in the age group of 40 to 55 years, including 550 menopausal women were analyzed for age at menopause by life table method, and symptoms of menopause using Cox Proportional Hazard Model. Average age at menopause was 49.3 years, however, average age at menopause by age of the women have been given in detail for the comparison. Standardized Risk Ratios for Menopausal status by Cox Proportional Hazard Model were higher in Business group as compared to Homemakers (RR=1.8, $p<0.01$), Hot Flushes were significant at $p<0.05$ etc. However, un-standardized Risk Ratios were significantly different with respect to comparable reference groups in all the determinants of Menopause, except in severe Sleep Problem, Moderate Depressive Mood, and Mild Irritability. The finding of the study concludes, to enhance the healthcare and health education to peri-menopausal women for better quality of life.

Keywords: Age at Menopause, Household survey, Menopause Symptoms, Sensitivity and specificity

Introduction

Age at Menopause as a physiological condition, is defined as the cessation of menstruation for a period of last 12 months due to loss of follicular activity of the ovaries (Dasgupta and Ray, 2009). Signs and symptoms of menopause were reported as vaginal dryness, hot flashes, night sweats, disturbed sleep, urinary problems, emotional changes etc., and they may alsobe present before attaining the menopause (Nordqvist, 2019).Several studies reported that the natural menopausal age vary from 45 to 55 years in most of the women, depending upon their genetic and socio-economic makeup, general health, nutritional status, physical activity etc (Danker-Hopfe, and Delibalta,1990; Kaprio et al.,1995; Treloar et al.,1998; Belmaker, 1982; Luoto et al.,1994; Parazzini et al., 1992; Brown et al., 1996; Osteria, 1983; Riley,1994; Simondon et al., 1997; Boldsen and Jeune, 1990; Malina, 1983; Baker, 1985; Beall, 1983;

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Gonzales, 1996).Palacios (2010) stated that the median age at menopause in Europe ranged from 50.1 to 52.8 years, in North America from 50.5 to 51.4 years, in Latin America 43.8 to 53 years, and in Asia 42.1 to 49.5 years (Palacios et al., 2010).

The distribution of commonly reported menopausal symptoms and their consequences (diseases) were night sweats (83.2%), hot flashes(76.4%), mood swings (72.5%), vaginal dryness (71.4%), irritability (67.5%), fatigue (66.8%) and loss of libido (66.4%), (ICD-10, 2010).Jacob Setorglo (2012) reported joint pain (64.4%), irregular menstrual cycle (62.9%), headaches (62.5%), weight gain (59.3%), memory lapses (53.6%) and sleep disorders (50.7%) as symptoms and their consequences in the perimenopause period (Setorglo et al., 2012).Whelan (1990) stated that an increased risk of cardiovascular disease and osteoporosis as the outcome of early menopause among the women, whereas, delayed menopause was associated with increased risk of breast cancer and endometrial cancer. Shuster (2010) reported, women with premature menopause (before age 40 years) or early menopause (between ages 40 and 45 years) experienced an increased risk of overall mortality due to cardiovascular diseases, neurological disorders, psychiatric diseases, osteoporosis etc. Symptoms and their consequences during menopause visibly flushing, sleeplessness, headache, lack of concentration provide invaluable symptoms for healthcare providers and public health personnel to enable appropriate healthcare (World Health Organization, 2016). Hence, the study was undertaken with an aim to understand the menopausal agonies, with the objective to study the age at menopause and factors affecting quality of life.

Materials and Methods

Cross-sectional study comprising of 712 rural women of age 40 to 55 years were subjected to pre-coded and pre-tested data collection schedule during October 2016 to April 2017, Belagavi District of North Karnataka, using Inverse Cluster Sampling. Data on Age at menopause along with socio-economic, anthropometric visibly weight, height, waist and hip circumference, menopausal symptoms and associated diseases were collected, to study age at menopause and its associated symptoms. Data about menopausal symptoms, psychological changes were collected in 5-point scale as None, Mild, Moderate, Severe, Very Severe (Appendix, Table 2), to make it feasible to compute indices. Pilot survey was carried out to standardize the data collection schedule.

Statistical Methods

Sample Size was computed for all the signs and symptoms of the menopause, after evaluating the feasibility the study was carried out for 95 percent Confidence Interval and 10 percent expected error in the estimates.

Life table method for estimation of average age at menopause is computed as:

$$Probability of Menopause\ (PM) = \frac{2\ \times Menopause\ women}{3\ \times Menopause\ women + 2\ \times Not\ yet\ Menopause}$$

The Menopause probability was calculated, as Death Probability in Life Table is computed from Age Specific Death Rate. The 95% Confidence Interval (95%CI) of Probability of Menopause were computed as

$$95\%\ CI = e^{(log_e(SPM) \pm 1.96\sqrt{\frac{1}{a} - \frac{1}{a+b}})}$$

Where, 'a' is the menopausal women and 'b' is not menopausal.

$$\text{Age at menopause} = L_l + 2\sum_{L_l}^{L_u} \text{Probability of menopause from } L_l \text{ to } L_u$$

Where, L_l and L_u are the Lower and Upper Limits of the group

The menopausal symptoms as determinants of menopausal risk (probability of achieving menopause status from fertile period as age x_i to x_i+1 years, where, i = 42 to 55 years) were analyzed using Cox Proportional Hazard Model, and the Risk Ratios were compared with unstandardized results. Further, the Risk Ratio has been converted into probability of achieving menopause status from age x_i to x_i+1 using IBM SPSS-20 version. Data were analyzed by using Excel and SPSS-20 version.

Results

A house to house survey covering 712 women of age 40-55, comprising of 550 menopausal and 40 'surgically induced menopause' were covered, using Inverse Cluster Proportion to Population Size sampling. Hence, for the analysis 672 perimenopause women excluding surgical induced menopause were considered.

Table 1: Age at menopause by age in years

Age (in Years)	Surgically Induced	n	Menopause (ASM*)	95% CI of ASM*		Mean Age at menopause
				LL	UL	
40-41	1	20	0 (0)	-	-	-
42-43	0	25	2 (8.00)	2.12	30.23	42.16
44-45	3	22	13 (59.09)	41.74	83.66	43.08
46-47	7	41	18 (43.90)	31.06	62.05	43.80
48-49	14	103	78 (75.73)	67.88	84.48	44.90
50-51	6	161	154 (95.65)	92.55	98.85	46.20
52-53	1	176	165 (93.75)	90.24	97.40	47.48
54-55	8	124	120 (96.77)	93.71	99.93	48.78
Total	**40**	**672**	**550 (81.85)**			

Note: *Age Specific Menopause (ASM)

Table 1 reveals that the menopausal women in the age group of 48-49 years were 75.7 percent, whereas, the similar figure in the age group of 54-55 years was 96.8%. The average age at menopause below the age of 46, 54, 56 years were 43.2, 47.9 and 49.3 years, respectively. Table 2, reveals that the standardized Risk Ratios for Menopausal status by Cox Proportional Hazard Model were higher in Business group (1.77) as compared to Homemakers at $p<0.01$, the similar figures in women with Hot Flushes were significant at $p<0.05$, though none of the group as individual exhibited significant differences. The other significant differences in menopausal status were seen in Sleep Problem, Depressive Mood, Irritability, Anxiety, Sexual Problem, Dryness Vagina and Blood Spotting after intercourse. However, unstandardized Risk Ratios for menopausal status were significantly different with respect to comparable reference groups in all the determinants of menopause except in severe Sleep Problem, Moderate Depressive Mood, and

Mild Irritability**.** Table 2 and Fig. 1 describe the detail of the Cox proportional Hazard model and Survival function of the model. Models efficacy are details in ROC curve.

Table 2: Cox Proportional Hazard Model for Menopausal Risk as compared to unstandardized

Variables	**Cox Proportional Hazard Model**		**Unstandardized**	
	Exp.(B)(95% CI)	**n**	**Menopausal (/100)**	**RR(95% CI)**
Occupation**	**, ++; p<0.01			
Home maker (Ref)		203	169 (83.3)	
Labour	0.92 (0.7, 1.21)	159	138 (86.8)	0.82 (0.67, 0.99)
Farmer	0.84 (0.62, 1.14)	121	98 (81.0)	0.58 (0.47, 0.72)
Professional	1.41 (0.85, 2.34)	36	29 (80.6)	0.17 (0.12, 0.25)
Business++	1.77 (1.17, 2.68)	46	38 (82.6)	0.22 (0.16, 0.31)
Others	0.79 (0.57, 1.1)	107	78 (72.9)	0.46 (0.36, 0.59)
Hot Flushes*	*,+; p<0.05			
None (Ref)		156	103(66.0)	
Mild	1.16(0.86,1.56)	200	160(80.0)	1.55(1.25,1.93)
Moderate	1.29(0.94,1.76)	218	199(91.3)	1.93(1.57,2.38)
Severe	0.98(0.64,1.5)	60	53(88.3)	0.51(0.38,0.7)
Very Severe	1.28(0.78,2.11)	31	30(96.8)	0.29(0.2,0.43)
Don't know+	0.28(0.09,0.83)	7	5(71.4)	0.05(0.02,0.12)
Sleep Problem*	*,+,@; p<0.05			
None (Ref)		79	63(79.7)	
Mild	0.84(0.6,1.17)	165	148(89.7)	2.35(1.79,3.08)
Moderate	1.24(0.9,1.71)	292	240(82.2)	3.81(2.96,4.9)
Severe	0.74(0.5,1.08)	114	82(71.9)	1.3(0.96,1.77)
Very Severe+	0.46(0.24,0.91)	17	16(94.1)	0.25(0.15,0.43)
Don't know@	8.4(1.08,65.59)	5	1(20.0)	0.02(0,0.11)
Depressive Mood*	*,+; p<0.05			
None (Ref)		204	168(82.4)	
Mild	1.1(0.81,1.51)	146	110(75.3)	0.65(0.53,0.81)
Moderate	1.11(0.83,1.48)	198	182(91.9)	1.08(0.91,1.29)
Severe	0.75(0.49,1.14)	88	60(68.2)	0.36(0.27,0.47)
Very Severe+	2.32(1.17,4.61)	21	20(95.2)	0.12(0.08,0.19)
Don't know	1.2(0.52,2.77)	15	10(66.7)	0.06(0.03,0.11)
Irritability***	***,+++; p<0.001			
None (Ref)		243	183(75.3)	
Mild	1.18(0.91,1.53)	195	170(87.2)	0.93(0.78,1.1)
Moderate	0.98(0.73,1.31)	143	116(81.1)	0.63(0.52,0.77)
Severe+++	0.47(0.32,0.7)	60	52(86.7)	0.28(0.21,0.38)
Very Severe	1.4(0.74,2.66)	12	12(100.)	0.07(0.04,0.12)
Don't know	0.92(0.46,1.85)	19	17(89.5)	0.09(0.06,0.15)
Anxiety***	***,+++; p<0.001			
None (Ref)		277	210(75.8)	
Mild	0.99(0.76,1.27)	204	174(85.3)	0.83(0.7,0.97)
Moderate	0.92(0.68,1.24)	127	112(88.2)	0.53(0.44,0.65)
Severe	0.8(0.52,1.23)	42	32(76.2)	0.15(0.11,0.22)
Very Severe+++	4.49(2.51,8.03)	16	16(100.)	0.08(0.05,0.12)
Don't know	1.58(0.61,4.06)	6	6(100.)	0.03(0.01,0.06)
Sexual Problem*	*'+; p<0.05, **; p<0.01			
None (Ref)		298	238(79.9)	
Mild+	1.33(1.05,1.69)	202	181(89.6)	0.76(0.65,0.89)
Moderate	1.06(0.79,1.41)	117	90(76.9)	0.38(0.31,0.47)
Severe	1.2(0.72,2)	29	23(79.3)	0.1(0.06,0.15)
Very Severe	0.74(0.31,1.75)	10	8(80.0)	0.03(0.02,0.07)
Don't know**	2.5(1.22,5.12)	16	10(62.5)	0.04(0.02,0.08)

Dryness Vagina*	***; p<0.001, **; p<0.01			
None (Ref)		346	280(80.9)	
Mild***	0.66(0.52,0.84)	182	151(83.0)	0.54(0.46,0.63)
Moderate	0.79(0.58,1.07)	83	69(83.1)	0.25(0.19,0.31)
Severe	1.03(0.64,1.67)	29	24(82.8)	0.09(0.06,0.13)
Very Severe**	0.33(0.14,0.74)	12	8(66.7)	0.03(0.01,0.06)
Don't know	1.18(0.67,2.09)	20	18(90.0)	0.06(0.04,0.1)
Blood Spotting between Periods				
No (Ref)		492	410(83.3)	
Yes	1.26(0.99,1.59)	180	140(77.8)	0.34(0.29,0.4)
Blood Spotting after intercourse**	**'++; p<0.01			
No		517	419(81.0)	
Yes++	1.42(1.13,1.79)	155	131(84.5)	0.31(0.27,0.37)

Note: The variables considered for determinants of Menopausal status, and could not exhibits significant effect are Type of Family, Heart Discomfort, Physical & Mental Exhaustion, Bladder Problem, Regularity of Menstruation, and Menstrual flow.

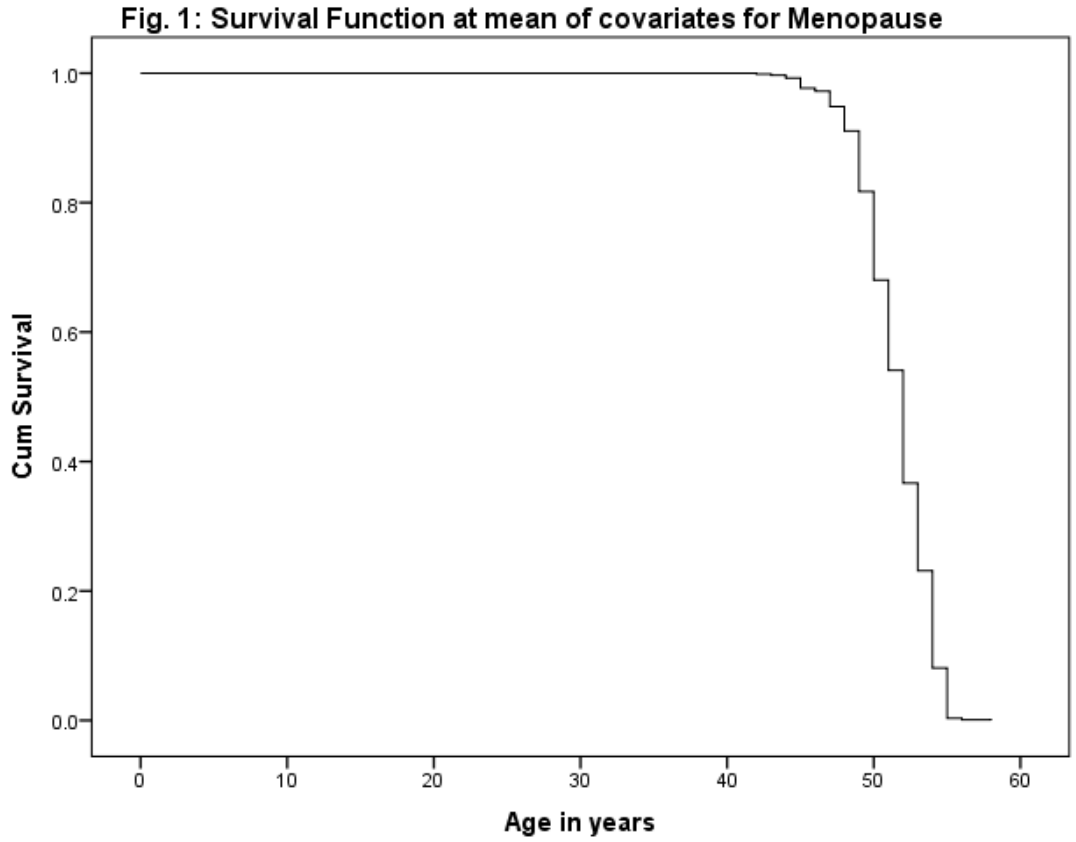


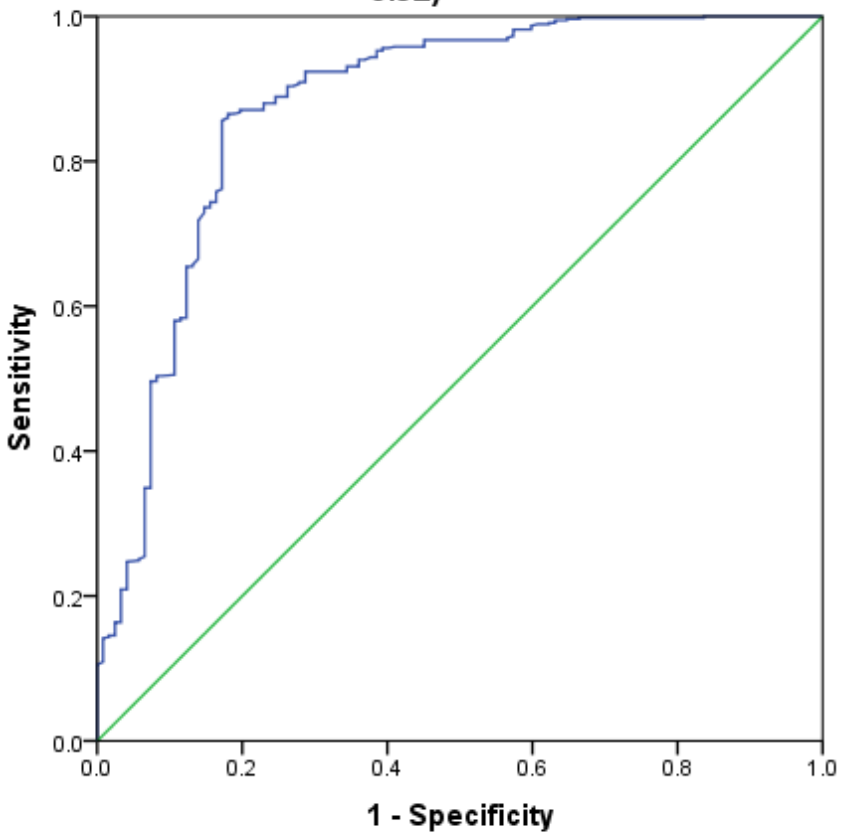
Table 3: Diagnostic evaluation of Cox Proportional Hazard Model

Probability of Positive attribute if Less Than or Equal To	Sensitivity	Specificity	Determinant Attributes	n
0.078	0.142	0.992	4,37,40,44,74	14
0.087	0.145	0.984	48,	4
0.111	0.164	0.975	11,47,61,	6
0.145	0.209	0.967	14, 33,95	4
0.201	0.247	0.959	5,42,49,56,92	26
0.287	0.349	0.934	9,10,16,18,26,59,66, 67, 71, 72, 77, 85, 86, 87, 89	111
0.416	0.496	0.926	3,6,7,12,13,19,22,24,27,28,31,35,36,43, 45,62,78, 83,97	167
0.534	0.58	0.893	29,98	3
0.546	0.584	0.885	23,32,41,50,51,63,64,68,88,93 94,99	117
0.587	0.655	0.877	1,17,21,34,38,58,65,81, 82,84	98
0.666	0.718	0.861	30	11
0.675	0.736	0.852	8,91	23
0.699	0.744	0.844	2,25,57,69,73,75,76,96	46
0.808	0.856	0.828	90	6
0.816	0.865	0.82	52,	8
0.827	0.871	0.803	15,20,55,	4
0.866	0.904	0.738	46,	4
0.877	0.909	0.721	39	3
0.902	0.924	0.713	54	5
0.951	0.958	0.59	80	1
0.952	0.967	0.549	53,	2
0.974	0.971	0.434	60,70,79	9

Note: Details of Codes in Column title 'Determinants Attributes' are in Appendix Table 1

Table 3 and Fig 2, Diagnostic evaluation of Cox Proportional Hazard Model reveals the diagnostic sensitivity and specificity along with positive attribute causing the menopause symptoms to occur. The most appropriate sensitivity and specificity of the Cox Proportional Hazard model were 85.6 and 82.8 percent respectively. However, different sensitivity and specificity for screening and diagnostic purpose can be used from the table as per the need of the research. The probability for specific diagnostic levels can be read, by entering the positive attribute of the symptoms of the menopause that is '1'in Cox proportional Hazard model, to use the model for diagnostic purposes, as for attributes 29 (Labour, Mild Irritability., Mild Dryness of vagina, and Spotting of Blood), and 98(Others (other than House maker, Labour, Farmer, Professional and Business), Severe Irritability, Mild Dryness of vagina, Spotting of Blood). The sensitivity of the model is 0.58, and specificity 0.893 with cut off point p (Probability) =0.534.

Fig. 2: ROC Curve of Survival Function for Menopause (Area = 0.88, 95% CI; 0.84 - 0.92)



Discussion

In a cross-sectional survey covering 712 women of age 40-55, comprising of 550 menopausal and 122 non-menopausal women were surveyed with an objective to study the health consequences of menopause, so that the necessary care (health education and medical care) for menopausal women are arranged. Furthermore, to provide necessary data on age at menopause and health consequences for Healthcare planners (policy formation) to arrange necessary health services. In the present study, the age at menopause has been computed using information, whether the women have achieved menopause or not at the current age, whereas, in most of the studies actual age at menopause has been recorded and used for computing the age at menopause (Ahuja, 2016; Luoto et al., 1994; Kaur and Talwar, 2009; Bromberger et al., 1997; Jacobsen, et al., 2003; OlaOlorun and Lawoyin, 2009; Parazzini and Progetto, 2007). Using actual age of women at menopause might have resulted in lapse of memory, and more likely deliberate reporting lesser age, as usual in case of women. The menopausal women in the age group of 48-49 years were 75.7 percent, whereas, the similar figures in the age group of 54-55 years was 96.8 percent, concluding in Positively Skewed Distribution of menopause, resulting in fast achieving the menopausal status, giving no time to the women to be ready for consequences. Findings are in line reported from developing and developed countries (Kaw et al., 1994; Thomas et al., 2001).

The average ages at menopause below the age of 46, 54, 56 years were 43.2, 47.9 and 49.3 years respectively, whereas, the age at menopause in developing countries has been reported 45 to 55 years, and in developed countries 50 to 53 years (Parazzini et al., 1992; Brown et al., 1996; Osteria, 1983; Riley,1994; Simondon et al., 1997; Boldsen and Jeune, 1990; Malina, 1983; Baker, 1985; Beall, 1983; Gonzales, 1996; Palacios et al., 2010). Standardized Risk Ratios for Menopausal status by Cox Proportional Hazard Model were statistically significant and higher in Business group as compared to Homemakers, Hot Flushes against with no Hot flushes. The other significant differences were observed by Sleep Problem, Depressive Mood, Irritability, Anxiety, Sexual Problem, Dryness Vagina and Blood Spotting after intercourse. Though, Fabio Parazzini (2007) in the similar study did not observe any difference in age at menopause by menopausal symptoms, however, the symptoms of menopause varied significantly by age at menopause.

Conclusion

The average age at menopause by indirect method, questioning whether, age at menopause has been achieved or not, was 49.3 years. The average age at menopause has been given for different ages, so that the findings are useful for further comparisons and for perimenopausal care. Almost all menopausal symptoms exhibited significant differences in categories by reference groups. However, Cox Proportional Hazard model could detect significant differences only in symptoms Hot Flushes, Sleep Problem, Depressive Mood, Irritability, Anxiety, Sexual Problem, Dryness of Vagina, and Blood Spotting after intercourse with respect to reference groups. Hence, the perimenopause women need psychological and medical care to minimize the menopausal agony.

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Appendix Table 1: Determinant Attributes

1=Home maker;	51=Farmer, Moderate (Irrit.)
2=Home maker, Yes (Blood)	52=Farmer, Moderate (Irrit.), Yes (Blood)
3=Home maker, Mild (Dry.)	53=Farmer, Moderate (Irrit.), Mild (Dry.)
4=Home maker, Mild (Dry.), Yes (Blood)	54=Farmer, Moderate (Irrit.), Mild (Dry.), Yes (Blood)
5=Home maker, Moderate (Dry.)	55=Farmer, Moderate (Irrit.), Moderate (Dry.)
6=Home maker, Mild (Irrit.)	56=Farmer, Severe (Irrit.)
7=Home maker, Mild (Irrit.), Yes (Blood)	57=Farmer, Severe (Irrit.), Mild (Dry.)
8=Home maker, Mild (Irrit.), Mild (Dry.)	58=Farmer, Severe (Irrit.), Moderate (Dry.)
9=Home maker, Mild (Irrit.), Mild (Dry.), Yes (Blood)	59=Professional
10=Home maker, Mild (Irrit.), Moderate (Dry.)	60=Professional, Yes (Blood)
11=Home maker, Mild (Irrit.), Moderate (Dry.), Yes (Blood)	61=Professional, Mild (Dry.)
12=Home maker, Moderate (Irrit.)	62=Professional, Moderate (Dry.)
13=Home maker, Moderate (Irrit.), Mild (Dry.)	63=Professional, Mild (Irrit.)
14=Home maker, Moderate (Irrit.), Mild (Dry.), Yes (Blood)	64=Professional, Mild (Irrit.), Yes (Blood)
15=Home maker, Moderate (Irrit.), Moderate (Dry.)	65=Professional, Mild (Irrit.), Mild (Dry.)
16=Home maker, Moderate (Irrit.), Moderate (Dry.), Yes (Blood)	66=Professional, Moderate (Irrit.)
17=Home maker, Severe (Irrit.)	67=Professional, Moderate (Irrit.), Moderate (Dry.)
18=Home maker, Severe (Irrit.), Yes (Blood)	68=Business
19=Home maker, Severe (Irrit.), Moderate (Dry.)	69=Business, Mild (Dry.)
20=Home maker, Severe (Irrit.), Moderate (Dry.), Yes (Blood)	70=Business, Moderate (Dry.), Yes (Blood)
21=Labour	71=Business, Mild (Irrit.)
22=Labour, Yes (Blood)	72=Business, Mild (Irrit.), Mild (Dry.)
23=Labour, Mild (Dry.)	73=Business, Mild (Irrit.), Mild (Dry.), Yes (Blood)
24=Labour, Moderate (Dry.)	74=Business, Mild (Irrit.), Moderate (Dry.)
25=Labour, Moderate (Dry.), Yes (Blood)	75=Business, Moderate (Irrit.)
26=Labour, Mild (Irrit.)	76=Business, Moderate (Irrit.), Moderate (Dry.), Yes (Blood)
27=Labour, Mild (Irrit.), Yes (Blood)	77=Business, Severe (Irrit.)
28=Labour, Mild (Irrit.), Mild (Dry.)	78=Business, Severe (Irrit.), Mild (Dry.)
29=Labour, Mild (Irrit.), Mild (Dry.), Yes (Blood)	79=Business, Severe (Irrit.), Mild (Dry.), Yes (Blood)
30=Labour, Mild (Irrit.), Moderate (Dry.)	80=Business, Severe (Irrit.), Moderate (Dry.)
31=Labour, Moderate (Irrit.)	81=Others
32=Labour, Moderate (Irrit.), Mild (Dry.)	82=Others, Yes (Blood)
33=Labour, Moderate (Irrit.), Mild (Dry.), Yes (Blood)	83=Others, Mild (Dry.)
34=Labour, Moderate (Irrit.), Moderate (Dry.)	84=Others, Mild (Dry.), Yes (Blood)
35=Labour, Moderate (Irrit.), Moderate (Dry.), Yes (Blood)	85=Others, Moderate (Dry.)
36=Labour, Severe (Irrit.)	86=Others, Mild (Irrit.)
37=Labour, Severe (Irrit.), Yes (Blood)	87=Others, Mild (Irrit.), Yes (Blood)
38=Labour, Severe (Irrit.), Mild (Dry.)	88=Others, Mild (Irrit.), Mild (Dry.)
39=Labour, Severe (Irrit.), Moderate (Dry.)	89=Others, Mild (Irrit.), Mild (Dry.), Yes (Blood)
40=Labour, Severe (Irrit.), Moderate (Dry.), Yes (Blood)	90=Others, Mild (Irrit.), Moderate (Dry.)
41=Farmer	91=Others, Moderate (Irrit.)
42=Farmer, Yes (Blood)	92=Others, Moderate (Irrit.), Yes (Blood)
43=Farmer, Mild (Dry.)	93=Others, Moderate (Irrit.), Mild (Dry.)
44=Farmer, Mild (Dry.), Yes (Blood)	94=Others, Moderate (Irrit.), Moderate (Dry.)
45=Farmer, Moderate (Dry.)	95=Others, Moderate (Irrit.), Moderate (Dry.), Yes (Blood)
46=Farmer, Mild (Irrit.)	96=Others, Severe (Irrit.)
47=Farmer, Mild (Irrit.), Yes (Blood)	97=Others, Severe (Irrit.), Mild (Dry.)
48=Farmer, Mild (Irrit.), Mild (Dry.)	98=Others, Severe (Irrit.), Mild (Dry.), Yes (Blood)
49=Farmer, Mild (Irrit.), Mild (Dry.), Yes (Blood)	99=Others, Severe (Irrit.), Moderate (Dry.)
50=Farmer, Mild (Irrit.), Moderate (Dry.)	

Note: Variable details in parenthesis - Dry- Dryness of Vagina, Irrit- Irritability, Blood- Blood spotting after Intercourse, Others – other than House maker, Labour, Farmer, Professional and Business, in the model all these attributes need to be entered as '1', then the model will give values of Odds Ratios against normal attributes.

Appendix Table 2: Menopausal symptoms, psychological changes

Hot Flushes	None, Mild, Moderate, Severe, Very Severe
Heart discomfort	None, Mild, Moderate, Severe, Very Severe
Sleep problems	None, Mild, Moderate, Severe, Very Severe
Depressive mood	None, Mild, Moderate, Severe, Very Severe
Irritability	None, Mild, Moderate, Severe, Very Severe
Anxiety	None, Mild, Moderate, Severe, Very Severe
Physical and mental exhaustion	None, Mild, Moderate, Severe, Very Severe
Sexual problem	None, Mild, Moderate, Severe, Very Severe
Bladder problems	None, Mild, Moderate, Severe, Very Severe
Dryness of vagina	None, Mild, Moderate, Severe, Very Severe