Background: The diminishing hormonal concentrations in women after menopause may trap them into a number of reproductive health deficits. Their lifestyle, occupation, dietary constituents, etc., affect the overall health. Unfortunately, women belonging to rural areas lack basic amenities and cultural aspects give them a backseat to pay heed to personal health. Therefore, it is important to take into consideration the demographic profile of rural women. 

Objective: The objective of the study is to evaluate postmenopausal women of rural Punjab for sociodemographic, reproductive parameters and health issues.

Results: This study analyzed 425 women showing a high rate of illiteracy (74.6%), agricultural occupancy (85.2%), and consumption of vegetarian food (94.4%). The mean age at menarche and menopause was observed as 14.04 ± 1.12 and 47.97 ± 3.4 years, respectively. The most frequent complaints were fatigue (70.4%), backache (69.4%), breathing problems (52.2%), and abdominal discomfort (43.1%).

Conclusion: Later age at menopause in women was found concurrent with involvement in agriculture and exposure to pesticides. Delayed menopause may indicate a risk of reproductive cancers while protection in cardiovascular diseases. Therefore, age at menopause and dependent sociodemographic parameters should be considered important tools in determining the reproductive health of aging women. Large-scale studies dealing with this health aspect are warranted at village level.

Keywords: Health, hormone, menopause, reproductive, rural

INTRODUCTION

Reproductive aging precisely menopause brings with it a number of hormone-related difficulties due to declining concentrations of estrogen and progesterone. The risk of diseases such as osteoporosis, hypertension, and cancer is higher in women post menopause.[1] However, menopausal women neglect personal health due to family preoccupancies, financial limitations, etc.

In India, the focus has largely been on reducing infant and maternal mortality rates, but programs on screening perimenopausal women are still scanty. In particular, rural setups encounter a higher degree of health nonsurveillance among women due to less access to Medicare facilities, unawareness, illiteracy, etc. Therefore, the present study attempts to analyze the sociodemographic pattern and major health issues faced by a section of rural women from Punjab.

MATERIAL AND METHODS

A cross-sectional community-based study was conducted in Talwandi Sabo block villages of Bathinda district, Punjab. It was approved by the university ethics committee. One-on-one interview schedules were arranged in the gurudwaras of 17 villages, and postmenopausal women aged ≥45 years were invited to participate in the health screening camps. Female

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residents of the village development block for >10 years were only included in the study. Written informed consent was obtained from the participants. A questionnaire was designed to record their sociodemographic characteristics along with any health issues faced currently or in the recent past.

### RESULTS

A total of 425 rural Jat Sikh postmenopausal women participated in the study. Majority were involved in cotton picking, seed sowing, and harvesting (85.2%). As a result of cotton picking, they were likely exposed to pesticides. The rate of illiteracy (74.6%) and vegetarian diet practices (94.4%) was higher. Dairy nutrient uptake was high due to animal rearing. Consumption of tobacco (bidi and jarda) was merely 1.2% while alcohol consumption was nil. Nulliparity was very low (0.5%). A fair proportion of women (33.2%) attained late menopause [Table 1].

The most frequent complaints were fatigue (70.4%), backache (69.4), breathing problems (52.2%), and abdominal discomfort (43.1%). Most of the complaints were faced by women menopausing in the age group of 45–49 years [Table 2].

From Table 3, it can be conferred that following vegetarian diet and tobacco usage reduces the age of menopause, while exposure to pesticides may delay the onset of menopause, although the differences were observed to be nonsignificant.

### DISCUSSION

In the present study, postmenopausal women of rural background from Talwandi Sabo block had

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**Table 1: Sociodemographic and reproductive profile of women (n=425)**

| Variable                      | Frequency (%) |
|-------------------------------|---------------|
| Occupation                    |               |
| Agriculture                   | 362 (85.2)    |
| Nonagriculture                | 63 (14.8)     |
| Educational attainment        |               |
| Illiterate                    | 317 (74.6)    |
| Primary                       | 68 (16)       |
| Secondary and above           | 40 (9.4)      |
| Diet pattern                  |               |
| Vegetarian                    | 401 (94.4)    |
| Nonvegetarian                 | 24 (5.6)      |
| Tobacco consumption           | 5 (1.2)       |
| Parity                        |               |
| 0                             | 2 (0.5)       |
| 1-3                           | 256 (60.2)    |
| >3                            | 167 (39.3)    |
| Age at menarche (in years)    |               |
| <13                           | 34 (8)        |
| 13                            | 92 (21.6)     |
| >13                           | 299 (70.4)    |
| Mean age at menarche          | 14.04±1.12    |
| Age at menopause (in years)   |               |
| <45                           | 39 (9.2)      |
| 45-49                         | 245 (57.6)    |
| 50-54                         | 129 (30.4)    |
| ≥55                           | 12 (2.8)      |
| Mean age at menopause         | 47.97±3.4     |

**Table 2: Health problems in menopausal women**

| Health problems                  | <45 (n=39), n (%) | 45-49 (n=245), n (%) | ≥55 (n=141), n (%) | Total (%) |
|----------------------------------|-------------------|----------------------|-------------------|-----------|
| Difficulty in breathing          | 21 (53.8)         | 120 (48.9)           | 81 (57.4)         | 222 (52.2) |
| Abdominal discomfort             | 18 (46.2)         | 103 (42)             | 62 (43.9)         | 183 (43.1) |
| Abdominal cyst                   | 1 (2.6)           | 10 (4.1)             | 7 (4.9)           | 18 (4.2)   |
| Thyroid problem                  | 0                 | 6 (2.4)              | 5 (3.5)           | 11 (2.6)   |
| BP                               | 6 (15.4)          | 32 (13.1)            | 17 (12.1)         | 55 (12.9)  |
| Cardiac problem                  | 1 (2.6)           | 0                    | 1 (0.7)           | 2 (0.5)    |
| Kidney/gallstones                | 3 (7.7)           | 16 (6.5)             | 9 (6.4)           | 28 (6.6)   |
| Indigestion/heartburn            | 14 (35.9)         | 66 (26.9)            | 49 (34.8)         | 129 (30.4) |
| Extreme fatigue                  | 29 (74.4)         | 167 (68.2)           | 103 (73)          | 299 (70.4) |
| Headache                         | 14 (35.9)         | 62 (25.3)            | 37 (26.2)         | 113 (26.6) |
| Skin problem                     | 4 (10.3)          | 28 (11.4)            | 15 (10.6)         | 47 (11.1)  |
| Backache                         | 26 (66.7)         | 177 (72.2)           | 92 (65.2)         | 295 (69.4) |
| Arthritis                        | 1 (2.6)           | 17 (6.9)             | 12 (8.5)          | 30 (7.1)   |
| Joint pain                       | 6 (15.4)          | 28 (11.4)            | 20 (14.2)         | 54 (12.7)  |
| Diabetes                         | 2 (5.1)           | 8 (3.3)              | 7 (4.9)           | 17 (4)     |
| Insomnia                         | 3 (7.7)           | 7 (2.9)              | 3 (2.1)           | 13 (3.1)   |
| Depression/anxiety               | 0                 | 5 (2)                | 3 (2.1)           | 8 (1.9)    |

BP: Blood pressure
The study has also observed a nonsignificant effect of diet type and tobacco use on menopausal timing. Negligible cases of cardiovascular diseases in the studied women further support that late age at menopause is protective against it. Moreover, the studied population was dominantly agricultural likely exposed to pesticides. The coupling effect of these further pushes the onset of menopause. The setback of menopausing late is a risk toward hormonal cancers. Furthermore, age at menopause should be considered an important tool in predicting the health of aging women. Large-scale studies dealing with this health aspect are warranted at the village level.

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Conflicts of interest
There are no conflicts of interest.

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Table 3: Variation in age at menopause with specific characteristics

| Characteristics      | Categories | Mean age at menopause (in years) | P    |
|----------------------|------------|----------------------------------|------|
| Tobacco consumption  | Yes (n=5)  | 47.8±2.59                        | 0.91 |
|                      | No (n=420) | 47.97±3.38                       |      |
| Diet type            | Veg (n=401)| 47.95±3.33                       | 0.64 |
|                      | Nonvegetarian (n=24) | 48.38±4.06                   |      |
| Contact with pesticides | Yes (n=362)| 47.92±3.27                       | 0.42 |
|                      | No (n=63)  | 48.29±3.92                       |      |

CONCLUSION
Late age at menopause in women was found concurrent with involvement in agriculture and exposure to pesticides. Delayed menopause may indicate a risk towards reproductive cancers while protection in cardiovascular diseases. Therefore, age at menopause and dependent sociodemographic parameters should be considered important tools in determining the reproductive health of aging women. Large-scale studies dealing with this health aspect are warranted at the village level.

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