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Subject: Operationalizing Menopausal Status  
Posted by [ANWER](#) on Mon, 14 Oct 2024 10:34:04 GMT  
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Hello,

We assume we should use V226 to calculate the age at menopause or the prevalence of women in menopause (please advise otherwise). According to the DHS manual, V226 is the computed time since the last menstrual period. This is computed from the response for V215, with durations exceeding the interval since the last birth (V227 = 7, 9) recoded to the response "Before last birth" (code 995) and inconsistent responses flagged on variable V227 (codes 1-6) recoded to 997.

In the data, the variable is categorized as 0-339 (indicates months before last menstruation), along with the following other categories:

IN MENOPAUSE/HAS HAD HYSTERECTOMY 994

BEFORE LAST BIRTH 995

NEVER MENSTRUATED 996

INCONSISTENT 997

MISSING 998

For calculating women's age at menopause, we devise the formulae:  $V226\_age = (V012 - V226/12)$ . While we can, by definition, recode categories 994, 996, AND 997 as "not menopausal", our queries are:

1. How may we deal with observations in 995(BEFORE LAST BIRTH)? They comprise a significant share of respondents (8%-12% in South and Southeast Asian countries), so we do not want to drop them.
2. Are these women (995 in V226) really in menopause or could they also be just in post-partum Amenorrhea?
3. If they are menopausal, how do we replace "995" for these observations with the time since their last menstruation to correctly calculate  $V226\_age = (V012 - V226/12)$ ?

Thank you very much in advance!

Best,

Anwer

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Subject: Re: Operationalizing Menopausal Status  
Posted by [Janet-DHS](#) on Tue, 15 Oct 2024 18:05:58 GMT  
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Thank you for submitting your question. Could you please provide some more detailed information so we can better advise you?

Can you let us know:

- Which survey you are using (Include country name and year)?
- Which data files you are referring to?
- Which software you are using (Stata, SPSS, R, etc.)?

If you are trying to match a Table in a final report, please also indicate which table and which estimate you are trying to match.

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Subject: Re: Operationalizing Menopausal Status  
Posted by [ANWER](#) on Fri, 18 Oct 2024 19:17:05 GMT  
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We used IR data files from 53 DHSs conducted across 12 South and Southeast Asian countries from 1986 to 2022 and analyzed the data in RStudio. One of our objectives is to explore the prevalence trends of premature (occurring before age 40) and early menopause (occurring between age 40 and 44) in these countries. We understand our estimates would not match those, if any, in the DHS reports as we modified the DHS definition of menopause extending the no-menstruation period from six to twelve months which aligns with the clinical definition of menopause. This necessitates appropriately dealing with "Before last birth" categories in V226s. We look forward to hearing from you!

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Subject: Re: Operationalizing Menopausal Status  
Posted by [Janet-DHS](#) on Fri, 25 Oct 2024 18:36:07 GMT  
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Following is a response from DHS staff member, Tom Pullum:

I'm not sure I understand your question, but I believe you are asking how to interpret code 995, "before last birth" for the variable v226, "time since last period (months)". That code means that the woman has not menstruated since her latest live birth.

Here are the Stata lines we use to construct the binary outcome, using the 6-month definition. "<6 months" would be the values 0,1,2,3,4,5, and that's the reason for "v226>5" in the construction. I think the only thing you would need to do is change that to "v226>11".

```
gen fe_meno = 0 if v013>3
```

```
replace fe_meno = 1 if (v226>5 & v226<997) & v213==0 & v405==0 & v013>3
```

You will see that nothing special is done for code 995. "v405=0," in addition to code 995, would mean that she has not menstruated since her last birth and she is past the interval for postpartum amenorrhea. I think the change to 12 months would not affect the construction in any way other than the change from 5 to 11. I can imagine that you might want to include a condition for the interval since the last birth, but I don't think that's needed.

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Subject: Re: Operationalizing Menopausal Status  
Posted by [ANWER](#) on Wed, 30 Oct 2024 14:52:48 GMT  
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Hi Tom, thank you very much for your response.

I understand you mean women belonging to 995 in V226 are truly menopausal as they had their last menstruation before their last births and they were past the interval for postpartum amenorrhea. This clarifies the first part of our queries (though there is an issue that I will get back to you later).

The next problem is how we determine women's age at menopause as our interest is not only determining their menopausal status (binary outcome). You will agree with us that this is straightforward using our formulae:  $V226\_age = (V012 - V226/12)$ , given that we exclude special responses (994, 995, 996, and 997) from the sample. But, what do you suggest we do if we are to determine the age at menopause of these women belonging to special categories in V226? This is particularly important because these women comprise a significant share of samples in SA/SEA countries, so excluding them would bias the prevalence (of premature and early menopause) estimates. Is there any way that the original variable V215 might be helpful in this regard?

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Subject: Re: Operationalizing Menopausal Status  
Posted by [Janet-DHS](#) on Thu, 31 Oct 2024 21:09:59 GMT  
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Following is a response from DHS staff member, Tom Pullum:

You could improve your estimate of age at last menstruation as follows. The woman's age in months at the time of the survey is  $v008-v011$ . Her current age in years is given by  $v012 = \text{int}((v008-v011)/12)$ . Therefore her months of age at last menstruation is  $v008-v011-v226$  and her completed years of age at that time is  $\text{int}((v008-v011-v226)/12)$ .

You are asking how to calculate age at menopause for women in the special categories of v226:

- 994 in menopause
- 995 before last pregnancy
- 996 never menstruated
- 997 inconsistent
- 998 don't know

I picked a survey (Philippines 2022) and entered "tab v012 v226 if v226 >=994". 998 does not occur (a response is required). The previous post dealt with 995. 996 is rare and mostly young women. The problematic categories are 994 and 997. I see that 994 is almost completely women age 40+ and 997 is almost never women age 40+. But I will not offer any suggestions for how to estimate when women with codes 994 or 997 last menstruated. Age at menopause is not a DHS indicator but I hope there is a literature that would give guidelines, or help you develop guidelines, for how to code these categories.

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Subject: Re: Operationalizing Menopausal Status  
Posted by [Jeannaldez](#) on Sun, 11 May 2025 08:06:13 GMT  
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@Monkey Mart To replace "995" with time since last menstruation, you could consider using an imputation method based on available data (like age at last birth or a related variable), though this will depend on the available dataset and your assumptions.

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