

# Empowering Women Through Midwife-Led Health Education: Effects on Menopause Knowledge, Coping Strategies, and Quality of Life in Egor Local Government Area, Edo State, Nigeria

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## ABSTRACT

Menopause represents a milestone in women's lives that result from the depletion of ovarian functions. It is a significant physiological transition associated with multiple physical, psychological, and social changes that may affect women's quality of life. This study examined the efficacy of midwife-led health education on knowledge of menopause, coping strategies, and the quality of life of menopausal women in Egor Local Government Area of Edo State. The study adopted a cross-sectional research survey design. A researcher-designed questionnaire was used to collect data among 187 menopausal women in the Egor Local Government area of Edo state. The findings of the study showed that 148(79%) were quite knowledgeable of menopause. 165(88.2%) and 121(64.7%) perceived that Midwife-led health education improves their understanding of menopause and quality of life respectively while 129 (69%) perceived that midwife-led health education has a positive effect on their coping strategies. Conclusion: there is a perceived positive effect of midwife-led health education on coping strategies, knowledge of menopause, and quality of life among menopausal women in the studied population. Therefore, there is a need for policymakers for health institutions to develop a periodic training programme for menopausal women on coping strategies

**Keywords:** Coping strategies, Health education, Menopausal women, Quality of life, Midwife

## INTRODUCTION

Health education is a primary strategy for health promotion. It is a constructed opportunity for learning, involving a series of communications designed to improve health literacy, awareness, knowledge, and the development of life skills conducive to individual and community health (Vamos et al., 2020). Health education is not limited to the dissemination of health-related information but extends to fostering motivation, skills, and confidence (self-efficacy) that is necessary to take action to improve health (Stormacq et al., 2019). Menopause is a milestone in women that results from the depletion of ovarian function. It is a biological phase accompanied by physical and psychological changes. It causes a wide range of symptoms such as hot flashes, night sweats, muscle and joint aches and pains, sleeping problems, weight gain, and depression, leading to an impairment of quality of life (Peacock et al., 2023; WHO, 2024) The changes could be social, physiological, psychological, and economic. It could also involve several chronic (Namazi et al., 2019)

With the increase in life expectancy, a woman spends almost a third of her life in menopause (Poomalar et al., 2013; Takahashi et al., 2015). The transition stage from the reproductive to the non-reproductive stage is due to

a reduction in the female hormonal production by the ovaries. This stage is normally not sudden; well-being tends to occur over a period of years, and it is a natural consequence of aging. However, for some women, the accompanying signs and effects that can occur during the transitional years can significantly alter their daily activities and well-being (Santoro et al., 2021). These symptoms have been attributed to the hormonal changes. The health and well-being of middle-aged women have become a major public health concern in the world. However, 80% of the women experience physical and psychological symptoms when they are approaching menopause, with various distress and disturbances in their lives, leading to a decrease in the quality of life (Delamater et al., 2018).

Knowledge about menopause, age at menopause, and various symptoms of menopause is helpful to adapt to this stage of life, as it is an unavoidable life event (Gebretatyos et al., 2020; Koyuncu et al., 2018). Several studies have demonstrated that women have insufficient knowledge and misconceptions about menopause, which may contribute to negative attitudes towards this life stage (Han et al., 2022; Nusrat et al., 2008; Turan Miral et al., 2024; Shahzad et al., 2021). Health education is one of the ways employed to improve women's knowledge and attitude towards menopause and living a quality life even with menopause (Gebretatyos et al., 2020). Proper training also improves the women's knowledge about menopause, as this will enable them to deal with emotional and practical aspects of menopause and allow women to be familiar with this stage (Khandehroo et al., 2025). Furthermore, health standards and quality of life can also be enhanced by promoting awareness of changing behaviors and creating an environment that supports optimal health practices rather than a pharmacologic intervention that has less acceptability, proven with greater dropout rates (Koyuncu et al., 2018; Dharmarajlu et al., 2024). This study examined the perceived efficacy of a midwife-led health education module on coping strategies, knowledge of menopause, and quality of life of menopausal women in the Egor local government area of Edo State.

### Study Objectives

The study examined the effect of a midwife-led health education intervention on menopausal women's knowledge, coping strategies, and quality of life. among menopausal women in Egor Local Government Area, Edo State, Nigeria

Specifically, the study was designed to:

- 1 Assess the level of knowledge of menopause among the study participants
- 2 Identify coping strategies against menopausal symptoms among the study participants
- 3 Ascertain lifestyle adopted against menopausal symptoms among the study participants
- 4 Evaluate the perceived effect of a midwife-led health education on coping strategies among the study participants

## METHODOLOGY

### Research Design and Settings

This study was a cross-sectional research survey, and it was conducted at the Egor primary health center among selected market women, e.g., Uselu market and Egor market (who attend the primary health centers), in the Egor local government area in Edo state.

### Study Population, Sample Size Determination, and Sampling Technique

The population of the study was 380 menopausal women who attended the primary health center located close to the market area in the Egor LGA of Edo State. The sample size was calculated using the Taro Yamane formula of 1967 to obtain 200 respondents, as shown below:

$$n = \frac{N}{1 + N(e^2)}$$

n: Sample size

N: Population size = 380

e: Margin of error (usually expressed as a decimal, e.g., 0.05 for 5%)

$$n = 380 / 1 + 380(0.05)^2$$

$$n = 380/1 + 0.95$$

$$n=380/1.95$$

$$n=195$$

$$10\% \text{ attrition rate: } 19.5 =: 195 + 20 = 20$$

$$\text{Total sample size } 195+20= 215$$

The primary health care centers and some selected marketplaces close by in the Egor Local Government Area were purposively selected while accidental sampling techniques were adopted to recruit participants.

### **Inclusion Criteria**

The population of the study was menopausal women who attended the primary health center located close to the market area in Egor LGA of Edo State, irrespective of whether it was their first time visiting or not. Only the women who entered menopause naturally, who were available at the time of data collection, and who were interested in the study and willing to participate.

### **Exclusion Criteria**

At the initial screening, women on hormone replacement therapy and with disorders related to the musculoskeletal and nervous systems or gait problems were not allowed to participate. In addition, women aged 60 years or more, or who have premature menopause (40 years), women with menopause secondary to surgery or drug therapy, and women who are exposed to dedicated dietary or exercise programs currently or previously were not allowed.

### **Instrument for Data Collection**

Data collection was done using self-structured questionnaire. The questionnaire consisted of four (4) sections. Section A: sought the information on socio-demographics variables. Section B: elicited responses on knowledge of menopause; Section C: elicited responses on coping strategies and lifestyle against menopausal symptoms while Section: D: evaluated perceived effect of the midwife-led health education on quality lifestyle. After initial recruitment of the participants, baseline data were collected using the section A to C of the instrument.

Thereafter, a section of health education was conducted among them and a unique identification code was given to each of them for easy identification during next visit. On next visit which were two weeks from the initial visit, another round of health education was conducted before administering the the section D of the instrument for data collection.

### **Data Collection and Analysis**

Data collection took place from Monday to Friday immediately after been attended to by healthcare personnel, until the desired sample size was attained. Returned questionnaires were reviewed for completeness before data entry. The collected raw data were coded, entered, and analyzed using IBM Statistical Packages for the Social Sciences (SPSS) Version 21 software. A scoring system was developed for sections. Descriptive data were expressed as frequencies, percentages, means, and standard deviations. a letter

### Ethical Considerations

Approval and letter of introduction were obtained from the Head of Nursing Department, Igbinedion University, Okada. Approval from the Egor local government ethics and research department was also obtained. All consented eligible participants were made to sign consent before they were enlisted to participate in the study. Throughout the course of this research study, the ethical principles guiding the use of human participants in research as stipulated by the Belmont report was strictly adhered to.

### RESULTS

A total of 215 women were given research questionnaire to complete. Of the two hundred (200) women given the questionnaire to complete, one hundred and eighty-seven (187) responded fill out the questionnaire, showing a response rate of 87 per cent. 37 (19.8%) of the respondents were within 40-45 years; 57 (30.5%) were within the age bracket 46-50 years; 70 (37.4%) were within the age bracket 51-55 years; 14 (7.5%) were 56-60 years and 9 (4.8%) were greater than 60 years. 118 (63.1%) are of the Bini ethnic group, while 69 (36.9%) are from other ethnic groups. 105 (56.1%) were Christians; 48 (25.7%) were Muslims; 21 (11.2%) were of the African tradition and 13 (7%) were other religions. 9 (4.8%) have no formal education; 32 (17.1%) had up to primary education; 59 (31.6%) had up to secondary education and 87 (46.5%) had up to tertiary education. 51 (27.3%) were civil servants and 136 (72.7%) were other occupations (Tables 1)

**Table 1: Demographic Data (n = 187)**

Variables	Frequency	Percent
<b>Age</b>		
40-45 Years	37	19.8
46-50 Years	57	30.5
51-55 Years	70	37.4
56-60 Years	14	7.5
Greater than 60 Years	9	4.8
<b>Ethnic group</b>		
Bini	118	63.1
Others	69	36.9
<b>Religion</b>		
Christianity	105	56.1
Islam	48	25.7
African tradition	21	11.2
Others	13	7.0
<b>Level of education</b>		
None	9	4.8

Primary education	32	17.1
Secondary education	59	31.6
Tertiary education	87	46.5
<b>Occupation</b>		
Civil servant	51	27.3
Others	136	72.7

Source; field work, 2021

50 (26.7%) of the respondents who had stoppage of their menstrual flow were less than 45 years; 77 (41.2%) were within the age bracket of 45-50 years, and 60 (32.1%) were greater than 50 years (figure 1)

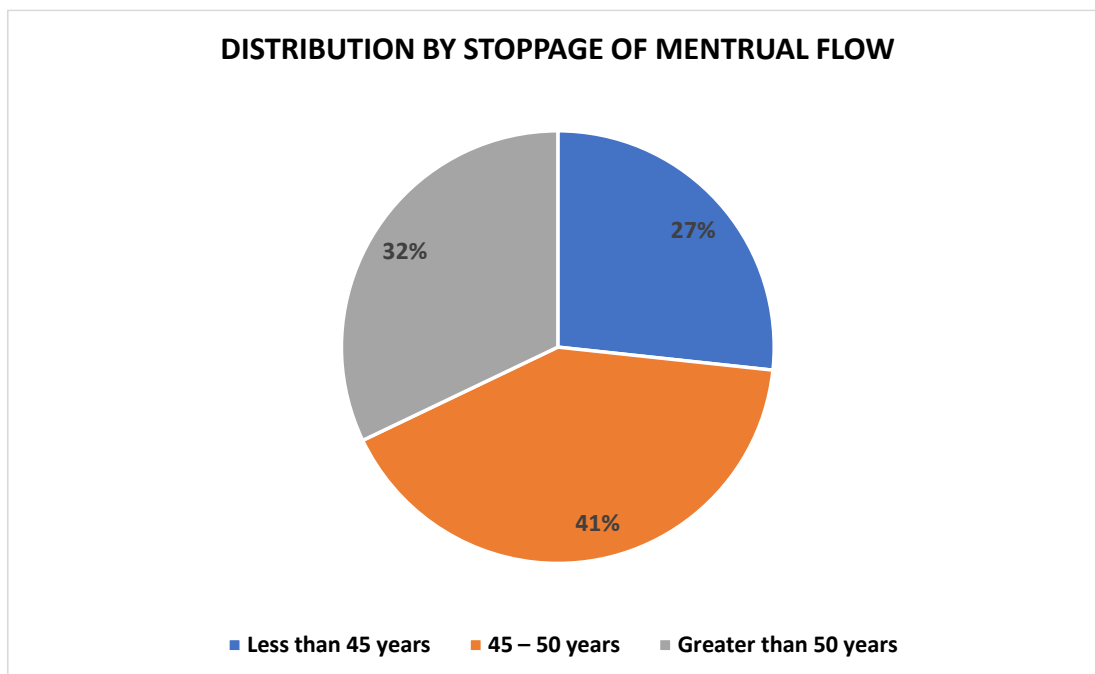


Figure 1: Distribution by stoppage of menstrual flow

Source: Field Work, 2021

60 (32.1%) of the respondents had their menstrual flow stopped for the past 0 to 2 years; 95 (50.8%) had it stopped for the past 3-5 years and 32 (17.1%) had it stopped over 5 years ago (Table 2)

Table 2. Distribution by the number of years menstrual flow stopped (n = 187)

Years of Manopause	Frequency	Percent
0 – 2 years	60	32.1
3 – 5 years	95	50.8
Greater than 5 years	32	17.1

Source: Field Work, 2021

176 (94.1%) of the respondents knew that menopause is a natural stage in a woman’s life, while 11 (5.9%) did not. 124 (66.3%) knew that menopause usually occurs between the ages of 45 and 55 years while 63 (33.7%) did not. 152 (81.3%) knew that a woman is considered menopausal after she has not seen her monthly period for 12 months while 35 (18.7%) did not. Also, 153 (81.8%) knew that menopause can increase a woman’s risk of developing osteoporosis (weak bones) while 34 (18.2%) did not. Furthermore, 138 (73.8%) disagree that a woman can still become pregnant after menopause while 49 (26.2%) believes it can. Finally, 143 (76.5%) agrees that menopause is caused by a decrease in reproductive hormones such as estrogen while 44 (23.5%) did not. Overall, 79% of the respondents were quite knowledgeable of menopause, and 21 were not (Table 3)

**Table 3. Knowledge of menopause (n = 187)**

Items		Yes	No	Total
Menopause is a natural stage in a woman’s life	No	176	11	187
	%	94.1	5.9	100
Menopause usually occurs between the ages of 45 and 55 years.	No	124	63	187
	%	66.3	33.7	100
A woman is considered menopausal after she has not seen her monthly period for 12 months.	No	152	35	187
	%	81.3	18.7	100
Menopause can increase a woman’s risk of developing osteoporosis (weak bones).	No	153	34	187
	%	81.8	18.2	100
A woman can still become pregnant after menopause.	No	49	138	187
	%	26.2	73.8	100
Menopause is caused by a decrease in reproductive hormones such as estrogen.	No	143	44	187
	%	76.5	23.5	100
Overall:	No	148	39	187
	%	79	21	100

63 (33.7%) of the respondents usually have a cold bath to cope with hot flashes and sweating, while 124 (63.3%) usually seek medical attention. 49 (26.2%) do cope with the inability to sleep at night, while 138 (73.8%) do not. 115 (61.5%) seek medical advice to cope with the state of irritability, tension, and losing temper quickly; 41 (21.9%) feel something is wrong; 21 (11.2%) do not know what to do, and 10 (5.4%) seek spiritual attention (Table 4).

**Table 4: Coping strategies Against Menopausal Symptoms (n =187)**

Items	Frequency	Percent
<b>Midwife-led health education on coping strategies</b>		
Have cold bath	63	33.7
Seek medical attention	124	63.3
<b>Coping with weakness of the body and general body pains</b>		
Use drugs like pain relief	151	80.7
Do exercise	36	19.3

<b>Coping with the state of irritability, tension and losing temper quickly</b>		
Seek medical advice	115	61.5
Feels something is wrong	41	21.9
Don't know what to do	21	11.2
Seek spiritual attention	10	5.4

(Source: Field Work, 2021)

The responses shows that 122 (65.2%) of the respondents exercise regularly, while 65 (34.8%) of the respondents do not. Also, 45 (24.1%) agrees that doing exercises regularly during the menopausal stage help them. 145 (77.5%) often take fruits. Also, 140(74.9%) admit that eating fruits can help them live a quality life. Furthermore, 101 (54%) agrees that change in diet help them to live a quality life. 121 (64.7%) have had a discussion in a group about menopause The table further shows that 43 (23%) do perceive that talking to someone or a group of people about this condition help them live a quality life. Finally, 77 (41.2%) were still interested in sexual activities, while 110 (58.8%) were not interested in sexual activities (Table 5).

**Table 5: Lifestyle Against Menopausal Symptoms (n =187)**

S/N	Items		Yes	No	Total
1	Do you exercise regularly before now?	No	122	65	187
		%	65.2	34.8	100
2	Does regular exercise during the menopausal stage help you maintain a quality of life?	No	45	142	187
		%	24.1	75.9	100
3	Do you eat fruits regularly?	No	145	42	187
		%	77.5	22.5	100
4	Does eating fruits help you live a quality life?	No	140	47	187
		%	74.9	25.1	100
5	Does change in diet help you to live a quality life?	No	101	86	187
		%	54.0	46.0	100
6	Have you had any discussions in a group about menopause?	No	121	66	187
		%	64.7	35.3	100
7	Does talking to someone or a group of people about this condition helps you live a quality life?	No	43	144	187
		%	23.0	77.0	100
8	Are you still interested in sexual activities?	No	77	110	187
		%	41.2	58.8	100

141 (75.4%) of the respondents agreed that midwife-led information about menopause helped them, while 46 (24.6%) of the respondents felt otherwise. 124 (66.3%) agreed that the series of information on menopause had changed their attitude about menopausal symptoms, while 63 (33.7%) felt otherwise. Also, 119 (63.6%) agreed that exercise, diet, and relaxation have helped to relieve anxiety and tension in the menopausal state. Furthermore, 165(88.2%) perceived that the series of health education improved their understanding of menopause.. Finally, 121 (64.7%) agreed that the health education series improved their quality of life, while 66

(35.3%) perceived otherwise. Overall, 129 (69%) of the respondents perceived that the midwife-led health education had a positive effect on their coping strategies, while 69 (31%) of the respondents perceived otherwise (Table 6).

**Table 6: Effect of a midwife-led health education on coping strategies on menopausal women**

S/N	Items		Yes	No	Total
1	Has the information about menopause helped you?	No	141	46	187
		%	75.4	24.6	100
2	Has the series of information changed your attitude about menopausal symptoms?	No	124	63	187
		%	66.3	33.7	100
3	Did the health education on exercise, diet, and relaxation help you to relieve anxiety and tension?	No	119	68	187
		%	63.6	36.4	100
4	Has the series of health education improved your understanding of menopause?	No	165	22	187
		%	88.2	11.8	100
5	Did the health education series improve your quality of life?	No	121	66	187
		%	64.7	35.3	100
	Overall:	No	129.0	58	187
		%	69.0	31.0	100

## DISCUSSION

Knowledge of menopausal symptoms and coping strategies is critical for women to effectively access healthcare during the menopausal period. It is unlikely that women who lack awareness of available health services for menopausal symptom management will utilize such services. For this reason, it is crucial to conduct health education studies to increase knowledge about menopause. Our findings revealed a high level of menopause-related knowledge among menopausal women. This finding is consistent with the findings of Dharmarajlu et al. (2024). Most of the respondents agreed that the health education series improved their quality of life. This finding corroborated reports from several previous studies. For instance, a recent quasi-experimental study among 214 suburban menopausal women in Mashhad, Iran, showed that menopausal women's health literacy and quality of life can be enhanced by educational interventions based on the self-efficacy model (Khandehroo et al., 2025). A similar finding was also reported in a systematic review by Keye et al. (2023) and in a randomized clinical trial from Iran (Hosseini et al., 2019). Educational programs increase women's understanding of menopause and improve confidence in managing symptoms, leading to better coping and higher self-reported quality of life. Exposure to quality health education can improve women's attitude towards menopause and reducing the fear of menopausal symptoms. It also helped reshape participants' perceptions of menopausal symptoms, which eventually improved their quality of life.

Another important finding of this study is that most respondents sought medical advice to manage irritability associated with menopause. This finding suggests positive health-seeking behaviour among the study population. Obtaining accurate information about menopause from healthcare professionals can assist women in developing more realistic expectations about this phase and in making informed decisions regarding treatment

options for menopausal symptoms. Health education for women during menopause aims to enhance their understanding of menopause and to foster a more positive perception of menopausal symptoms (Koyuncu et al., 2018).

Furthermore, most respondents believed that discussing their experiences with others or participating in support groups could improve their quality of life. This reflects the finding of Yazdkhasti et al. (2012) among Iranian women. This reinforces evidence that support group interventions not only have favorable effects on women of reproductive age but also effective in enhancing QOL of postmenopausal women and can assist in enhancing its indicators. Also, the majority of the respondents agreed that exercise, healthy dietary practices, and relaxation techniques helped relieve anxiety, tension, and irritability during menopause. This finding is consistent with existing literature. For instance, a Turkish cross-sectional study found that physical activities were associated with lower menopausal symptoms (Tan et al., 2014). Also, an English study by Asiamah et al. (2024) reported similar findings. Similarly, several studies in the United States, including randomized controlled trials, have confirmed that PA buffers symptoms of menopause (Elavsky et al., 2007; Hulteen et al., 2023; McAndrew et al., 2009; Witkowski et al., 2023; Yue et al., 2025). A plausible explanation is that these lifestyle practices directly influence physical and emotional wellbeing, and the changing levels of estrogen and progesterone during menopause often cause mood swings, irritability, and increased stress. Regular physical activity elevates endorphin levels, the body's natural "feel good" chemicals, which help stabilize mood and alleviate anxiety (Choudhary et al., 2025; Sood et al., 2019; Yazdani Aliabadi et al., 2021). A healthy diet, including plenty of fruits, vegetables, whole grains, and phytoestrogens, regulates hormones and prevents blood sugar fluctuations that can exacerbate irritability (Jóźwiak et al., 2025). Relaxation techniques such as deep breathing, meditation, and adequate sleep help regulate the nervous system, decrease stress hormones, and make it easier to cope. Still, some participants might have found these measures ineffective for them because of individual experiences.

## CONCLUSION

The study achieved its objective of examining the efficacy of the midwife-led health education module on the knowledge, quality of life, and coping strategies of menopausal women in the Egor Local Government Area of Edo State. Also, the study collected primary data using a questionnaire, which was filled out by women attending the Egor primary health center. The data were analyzed using descriptive statistics. The findings demonstrated a positive effect of midwife-led health education on menopausal women's health behavior.

## Study Limitations

Despite providing useful insights, the study has several limitations that should be considered when interpreting the findings. First, the research adopted a cross-sectional survey design, which limits the ability to establish a clear cause-and-effect relationship between the midwife-led health education and the reported improvements in knowledge, coping strategies, and quality of life among the participants. This could have been better addressed using a qualitative or mixed-methods approach.

Second, the study relied on self-reported data collected through questionnaires. This approach may introduce recall bias or social desirability bias, as some participants might have provided responses they believed were expected or socially acceptable rather than their actual experiences.

Another limitation is related to the sampling method and study setting. Participants were recruited convenience sampling technique from the Primary Health Centers (PHC) located near markets within the Egor Local Government Area. This may reduce the representativeness of the sample and limit the ability to generalize the findings to other populations, particularly women in rural communities or those attending secondary and tertiary healthcare facilities.

Additionally, the study was conducted within a single local government area, which may not fully capture variations in cultural practices, health-seeking behaviors, and access to healthcare services that exist in other regions. Finally, the short follow-up period after the health education sessions may have been insufficient to determine whether the observed improvements in knowledge and coping strategies would be sustained over a

longer period of time. Future studies could employ longitudinal or experimental designs to better assess long-term outcomes of similar interventions.

Nevertheless, the strength of the study lies in the use of primary data collected directly from menopausal women attending primary healthcare centers. This allowed the researchers to capture firsthand information on women's knowledge, coping strategies, and lifestyle practices related to menopause, thereby increasing the authenticity of the data. The study also benefited from a relatively high response rate of 87%, which suggests strong participation and reduces the likelihood of significant non-response bias. This improves confidence in the representativeness of the results. In addition, the research incorporated a midwife-led health education intervention, which provided practical insight into how health education can influence women's understanding of menopause and their coping behaviors. This aspect adds practical relevance to the study, particularly for primary healthcare practice. Finally, the study maintained ethical rigor, as approval was obtained from the relevant institutional and local government ethics committees before data collection. This ensured that participants' rights, confidentiality, and voluntary participation were properly protected throughout the research process.

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### Ethical Statement

Ethical approval for this study was obtained from the Department of Nursing Research and Ethics Committee, Igbinedion University, Okada, Edo State, Nigeria, prior to the commencement of the study. Permission to conduct the research was also obtained from the Egor Local Government Health Department and the management of the selected PHC. Participation in the study was voluntary, and confidentiality of respondents' information was strictly maintained.

### Financial Disclosure

The authors received no specific funding for this study from any public, commercial, or not-for-profit funding agency.

### Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this study.

### Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

### Patients' Consent

Informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed about the purpose of the study and their right to withdraw at any time without penalty or negative consequences.

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