



# Influence of Menopause on Work Productivity among Health Workers in Public Hospitals in Kiambu County, Kenya

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## Summary

### INTRODUCTION

Menopause has been established as cause for impaired work productivity in women health workers in general. However, studies on the influence of menopause on work productivity among women employed in public hospitals in Kenya has been little or underreported.

### PURPOSE

The purpose of this study was to determine the influence of menopause on work productivity among health workers in Kiambu County, Kenya.

### METHOD

A case control study design was adopted comprising 239 cases aged 40-60 and 239 controls aged 40-60 years. Cases comprised women in menopause while controls comprised women not in menopause. A validated questionnaire on Work Productivity and Activity Impairment (WPAI) was used to collect data on extent and influence of menopause on work productivity. Descriptive statistics was used to describe the study sample and work productivity while *Chi-square Test* was used to analyze the association between menopause and work productivity using *SPSS software, v20*.

### RESULTS

Findings indicated that the average age at menopause was 48.5 years. The study revealed a 28% overall Work Productivity and Activity Impairment (WPAI) among women. Women in menopause had the highest WPAI index of 38% while those not in menopause had a WPAI of 18%. *Chi-square Test* analysis showed that menopause is associated with work absenteeism ( $p=0.001$ ) and productivity impairment ( $p=0.001$ ).

### CONCLUSION

Menopause impairs work productivity and results in greater work absenteeism. This makes menopause a sensitive workplace issue.

**Keywords:** Menopause, Work Productivity, Work Impairment, Work Absenteeism

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## Introduction

Menopause is defined as the cessation of menstrual periods for at least 12 consecutive months and not due

to physiologic (like lactation) or pathological causes [1]. Natural menopause is defined as the physiological cessation of menstrual periods for at least 12 consecutive



months and is not due to surgical, pathological processes or premature ovarian failure in as young age below 40 years [1, 2]. Menopause is widely established as cause for impaired work productivity in women health workers [1].

Typically, women are known to start menopause between age 45 to 55 but can start earlier to age 40 (premature menopause) and after age 55 to 60 years [2].

Certain work situations and physical working environments increase the intensity of menopausal symptoms and their effects on their work productivity [3].

The cessation of menstrual periods is often associated with a variety of unpleasant symptoms, including anxiety, depression, decreased libido, vaginal dryness, insomnia, difficulty concentrating, and vasomotor symptoms (hot flushes and night sweats [2,3].

A study by Berecki-Gisolf [4] demonstrated that many symptoms persisted 7 years after the cessation of their menstrual periods. Some women find this transition barely noticeable while others find it life altering.

According to Geuke *et al.* [5], certain work situations and physical working environments increase the intensity of menopausal symptoms and their effects on their work productivity. Formal sensitization and training on how menopause influence work productivity is missing within the public hospitals.

Discussion about the menopause at work is widely perceived as a taboo globally especially in African culture [6] and there has been little consideration of what employers could do to provide necessary support.

These aspects have been shown to adversely limit the work productivity of these women at their work place [1, 2].

Understanding the influence of menopause on work productivity is important in mitigating any adverse effect and provision of supportive work environment hence improving productivity and performance.

Therefore, this study purposed to determine the influence of menopause on work productivity among health workers.

## Methods

### *Study design:*

The study adopted matched case control study design. Cases comprised menopausal women aged 40 to 60 years while the control constituted women aged 40-60 years who were not in menopause. Age of respondents comprised four age groups; each age group had a range of 5 years.

In the study, age was used to match cases to controls. Simple random sampling was used to randomly select one control where more than one control was identified.

The study was conducted among women health workers aged 40-60 years in 13 selected public hospitals in Kiambu County located at 1.10 South and 36.5oEast and 17 km drive from Nairobi city [7].

According to Kiambu health sheet, 2012 [7] women in Kiambu comprised approximately 827,874 of the population, of which about 90,238 was estimated to be aged 40-60 years. A total of 478 women were enrolled; 239 menopausal and 239 non-menopausal women.

### *Study Group*

The study included only women in formal employment working in level 4 and 5 hospitals in Kiambu County who gave informed consent to participate in the study.

The cases included only women whose menses had stopped for at least one year and those who were not using any contraceptive while the controls included women who had not entered menopause.

The study excluded women with induced menopause (surgical menopause) and those with chronic diseases such as diabetes, depression and other chronic medical illnesses with similar symptoms as those of menopause. Any woman who refused to give consent was excluded from the study.

The outcome variable of the study was work productivity. Work productivity was measured by percentage (%) loss of productivity (gauged in terms of presenteeism, absenteeism and overall work productivity) at work where a higher percentage indicates greater impairment or productivity loss [2].



Absenteeism represented the percentage of work time missed due to health in the past 5 days. It was calculated using the formulae:

**Absenteeism =**

$$\frac{\text{Time missed from work due to health problems} \times 100\%}{\text{Time missed from work} + \text{time spent at work}}$$

Presenteeism represented the percentage of impairment while at work due to health in the past 5 work days preceding the study.

This was assessed using a Likert-type item with scale range of 0-10 in which “0” meant that health problems had no effect on work and “10” meant that health problems completely prevented one from working.

The score was then multiplied by 10 to give a percentage. Overall work productivity impairment represented the total percentage of work time missed due to either absenteeism or presenteeism (since those measures are mutually exclusive). This was determined as follows:

$$\text{Overall work productivity impairment} = \text{absenteeism} + (1 - \text{absenteeism}) \times \text{presenteeism}$$

Data for this study was collected using a questionnaire which comprised socio-demographic variables; age, marital status, education and profession, and the validated Work Productivity and Activity Impairment (WPAI) scale [2].

The WPAI assessed the extent and influence of menopause on work productivity, loss of productivity at work and impairment in daily activities. The tool had 4 sub-scale variables: absenteeism, presenteeism, overall work impairment and activity impairment that range from 0% to 100% with higher values indicating greater impairment.

The quantitative data was coded, entered into data screen, cleaned and analyzed using SPSS version 20. Descriptive statistics comprising mean, frequency and percentage were used to describe socio-demographics of the study participants.

*Chi-square Test* was used to establish associations between menopause and work productivity. Statistical significance was inferred at 0.05% level.

## Ethical

Ethical approval for the study was obtained from Ethical Review Committee (ERC) of Kenyatta University after which a research permit to conduct the study was granted by National Commission for Science, Technology and innovations (NACOSTI).

Informed consent was sought from the respondents using a specific consent form.

Participation was completely voluntary and the respondents had the liberty of not answering any question or withdrawal from the study at any time they feel appropriate.

Questionnaires were anonymised; unique codes for participants were used. Study records were kept in lockable safe and soft records kept in a password protected computer which was only accessible by principal investigator.

## Results

In regards to socio-demographic characteristics of respondents (Table 1), the mean age of respondents was 48.8 years. More than half (54.2%) of the respondents were aged 40-49 years. More than half (60.3%) of the respondents were married. Majority of the respondents (57.9%) were diploma holders. More than two-thirds (68.8%) of the respondents were nurses.



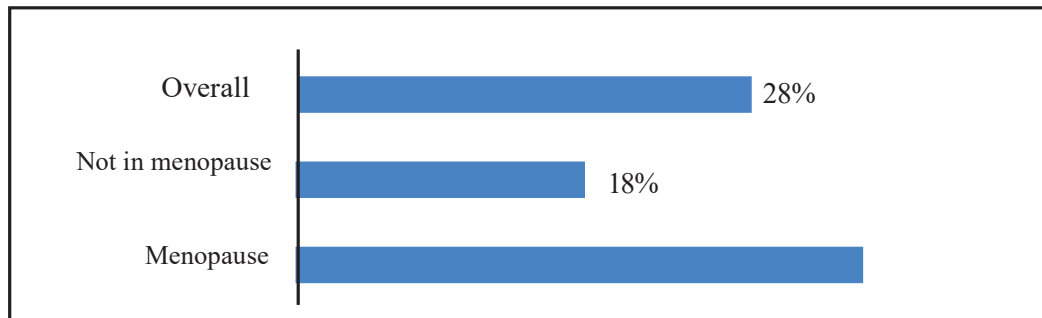
**Table 1:** Socio-demographic characteristics of respondents on age in years and marital Status

Variable		n = 478	Percent %
<b>Marital status</b>	Married	288	60.3%
	Divorced	39	8.2%
	Separated	79	16.5%
	Never married	21	4.4%
	Living with a partner	9	1.9%
	Widowed	42	8.8%
	<b>Education</b>	Certificate	48
	Diploma	277	57.9%
	Higher Diploma	50	10.5%
	Degree	91	19.0%
	Masters	12	2.5%
<b>Profession</b>	Doctor	3	0.6%
	Nurse	328	68.6%
	Pharmacist/Pharm Techs	7	1.5%
	Laboratory Technologists	20	4.2%
	Clinical officers	11	2.3%
	Physiotherapist	11	2.3%
	Radiologist	9	1.9%
	Nutritionist	15	3.1%
	Anesthetists	8	1.7%
	Dentist/Dental Technologist	9	1.9%
	Occupational therapists	9	1.9%
	Health Record Officers	11	2.3%
	Public Health Officers	27	5.6%
	Others	10	2.1%



The study revealed that mean age at menopause was 48.5 years with a standard deviation of 3.87 years. A total of 30 menopausal women (13%) reported premature menopause i.e. menopause occurring below

45 years. The overall work productivity impairment (WPAI) index was 28%. Women in menopause had the highest WPAI index of 38%; menopause women had a 20% WPAI more than that not in menopause.



**Figure 1: Work Productivity Impairment Index**

In regards to absenteeism, work absenteeism was measured in terms of percentage work time missed due to health-related problems. The study showed that work absenteeism was higher among respondents in menopause than those who were not in

menopause (**Table 2**). Time spent away from work due to health problem was higher for women in menopause compared to women not in menopause. Menopause had a statistically significant relationship with work absenteeism ( $p=0.001$ ).

**Table 2: Relationship between menopause and work absenteeism**

VARIABLE	0 hours	1-10 hours	11 hours & Above	Chi-square Test	
Menopause	No	180(75.9%)	50(21.1%)	7 (2.9%)	$\chi^2=21.549, p=0.001$
	Yes	134(56.1%)	95(39.7%)	10(4.1%)	

To examine the influence of menopause on work productivity, WPAI was expressed in terms of percentage and categorized into five categories: No influence at all for 0%, mild for 1-25%, moderate for 26-50%, severe for 51-100% (Table 3). The study indicated that majority (83%) of the women had their

work productivity impaired (mild to severe). More than two thirds (67%) of the women in menopause reported impairment of moderate to severe compared to 27% of women not in menopause. Menopause had a statistically significant relationship with work ability impairment ( $p=0.001$ ).

**Table 3: Influence of Menopause on Work Productivity**

INFLUENCE	NOT IN MENOPAUSE	%	IN MENOPAUSE	%	Chi-square Test
No Influence	90	38%	41	17%	$\chi^2=76.979$ $p=0.001$
Mild	85	36%	41	17%	
Moderate	42	18%	78	33%	
Severe	22	9%	79	34%	
<b>Total</b>	239	100%	239	100%	



## Discussion

The study has shown that mean age of menopause among health care workers to be 48.5 years. This finding is consistent with other studies within the Sub-Saharan Africa and globally [8].

In developing countries, especially in Sub-Saharan Africa, the mean age at menopause ranges from 48-51 years whereas in India, the mean menopausal age is 49.3 years [1] the little deviations in mean age at menopause across the region may be due to regional and community variations in which the study was conducted.

In this study, women in menopause have been shown to have more work impairment (moderate to severe) in their capacity to function at work compared to those not in menopause.

This result was similar to past studies [8, 9] in which menopausal women were reported to have stopped working and or sought early retirement. The menopause problems have been reported to have significant influence on women overall quality of life and work abilities [10].

Women affected by the menopausal problems reports greater negative effect on their physical, social and sexual life. This was well articulated in a study by Adoyo et al. [11] who showed a significant relationship between severe menopause symptoms and decrease quality of life.

The study has linked menopause with increase in work absenteeism. Women in menopause were shown to ask for more time off at work (sick offs) due to health reasons which affected their individual productivity and work performance. This was similar to a study by *Whiteley et al.* [2] who reported higher staff absenteeism among women in menopause workers due to health problems related to it.

Many workplaces have no programmes to support women experiencing the difficulty and challenges associated with menopausal transition [11].

Lack of sensitization and staff supporting programmes on menopause has led to failure by many

women to disclose their menopause status and seek support from management. In this study, this resulted in some women refusing to participate in the study while others feared disclosing their age.

Although this study did not examine determinants of work productivity impairment, past studies [2, 8-9] have showed that some factors aggravate menopause symptoms and make it difficult for women to be optimally productive in their work.

Such as working in poorly ventilated environments and highly visible work duties (especially for women presenting with hot flushes). Long training hours and formal presentations.

This is a significant study gap which has not been well researched across available body of literature. The demonstrated influences of menopause on work productivity impairment underscore the need for recognition of menopause as work place issues to facilitate adoption of appropriate mitigation strategies.

## Conclusion

Menopause has adverse influence on a woman's work ability but varies across individuals. Menopause is associated with higher work absenteeism and productivity impairment.

Due to the invaluable experience and skills of menopausal women. Absenteeism and work productivity impairment adversely affect work performance and organizational productivity.

Menopause impairs work ability, performance and quality of related work outcome. Evidently, menopause presents a critical aspect of workplace issues which require management support.

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## Competing interest

Authors declare they have no competing interest.





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