HEALTHY LIFESTYLE INTERVENTIONS AMONG MEDICAL LABORATORY SCIENTISTS IN SELECTED PUBLIC LABORATORY FACILITIES IN EASTERN CAPE PROVINCE

Khanyani Bobotyana[1], Sikhumbuzo A. Mabunda[1,2,3] Al-Abed Ali Ahmed Al-Abed[4], Olanrewaju Oladimeji[4,5,6]

[1]School of Public Health, iYunivesithi Walter Sisulu, Mthatha, South Africa

[2]Global Centre for Human Resources for Health Intelligence, iYunivesithi Walter Sisulu, East London, South Africa

[3]School of Population Health, University of New South Wales, Sydney, Australia

[4]Community Medicine Department, Faculty of Medicine, University of Cyberjaya, Selangor, Malaysia,
[5]Department of Public Health, Sefako Makgatho Health Sciences University, Pretoria, South Africa,
[6]SAMRC/SMU Public Health Interventions, Innovations and Implementation Research Unit, Sefako Makgatho Health Sciences University, Pretoria, South Africa

Corresponding author: khanyanibobotyana@gmail.com

ABSTRACT

Introduction: Medical laboratory scientists often face unique stressors and lifestyle constraints that can compromise their well-being. This study examined workplace-related factors influencing healthy lifestyle practices among medical laboratory scientists in public laboratory facilities in the Eastern Cape, South Africa. **Methods:** A qualitative phenomenological design was employed. Twenty medical laboratory scientists from ten public diagnostic laboratories were recruited using snowball sampling. Data were collected through semi-structured, in-depth virtual interviews conducted via Microsoft Teams. Interviews were audio-recorded, transcribed verbatim, and analyzed using Braun and Clarke's thematic analysis framework, supported by NVivo software. **Results:** Participants identified multiple barriers to maintaining healthy lifestyles, including long, irregular working hours, high workloads, fatigue, limited access to nutritious food, and inadequate social and organizational support. Workplace wellness initiatives were perceived as limited and poorly aligned with staff needs, while managerial support was often insufficient. **Conclusion:** Healthy lifestyle practices among medical laboratory scientists are strongly influenced by organizational and structural workplace conditions. System-level interventions, including structured wellness programmes and supportive leadership, are essential to improve staff well-being.

Keywords: Eastern Cape; Healthy lifestyle; Medical laboratory scientists

INTRODUCTION

Medical laboratory scientists (MLSs) are integral to the healthcare system, performing diagnostic tests that support clinical decision-making and patient care. However, the nature of their work is often associated with unhealthy lifestyle habits, largely due to stressful working environments, extended working hours, staff shortages, and the constant demand for rapid turnaround times (Mafolo, 2022; Mukhodobwane, 2020). These conditions contribute to occupational stress, fatigue, and poor health behaviours, such as inadequate diet, insufficient physical activity, and poor stress management.

The consequences of such unhealthy practices are significant. They include reduced productivity, increased absenteeism, presenteeism, higher healthcare costs, burnout, and diminished quality of care (Timotius & Octavius, 2022). Although some of these behaviours may result from individual lifestyle choices, workplace stressors exacerbate them and reinforce unhealthy patterns.

Healthy living for MLSs requires resources, motivation, and supportive environments that enable positive behaviours affecting physical and mental well-being. This includes maintaining a balanced diet, regular exercise, and effective stress management. According to the World Health Organization (WHO, 2007), health encompasses physical, mental, and social well-being, not merely the absence of disease. Interventions such as workplace wellness programmes, stress management initiatives, and nutrition education could empower MLSs to adopt healthier behaviours and serve as role models within their families and communities (WHO], 1998)

Workplace health promotion has increasingly been recognized as a critical component of healthcare system strengthening. In resource-constrained settings such as South Africa, healthcare workers often operate under significant pressure due to staff shortages, high patient loads, and limited institutional support. These challenges not only affect service delivery but also compromise the well-being of healthcare professionals, including medical laboratory scientists, who play a vital yet often overlooked role in patient care.

Despite growing global attention to occupational health, there remains limited context-specific evidence on the lifestyle behaviours of medical laboratory scientists within the South African public health sector. Understanding how organizational factors influence health behaviours in this group is essential for designing effective interventions. This study therefore seeks to explore the lived experiences of medical laboratory scientists and to identify workplace-related factors that shape their ability to maintain healthy lifestyles.

METHODS

Study design and sample size

This study adopted a qualitative phenomenological approach to explore the lived experiences and understand the lifestyle behaviours of medical laboratory scientists. The design enabled the researcher to capture in-depth insights into lifestyle behaviours, workplace challenges, and perceptions of wellness interventions among medical laboratory scientists. The approach facilitated access to participants through established professional trust networks, encouraged openness in discussing personal lifestyle behaviours, and enabled efficient attainment of data saturation within the study setting's logistical constraints. A total of 20 medical laboratory scientists were recruited from 10 arbitrarily selected public clinical diagnostic laboratories in the Eastern Cape Province (two participants per facility). Only medical laboratory scientists and technologists were included; other categories of laboratory personnel were excluded.

Data collection

Semi-structured, in-depth interviews were conducted using an interview guide with open-ended questions to explore participants lived experiences of healthy lifestyle practices and workplace interventions. Interviews were held virtually via Microsoft Teams, audio-recorded with consent, and lasted 45–60 minutes. Recordings were transcribed verbatim. The interview guide was divided into two sections:

Section A (Demographic Information): gender, age, ethnicity, years of experience, and length of service in the current facility.

Section B (Lifestyle and Workplace Experiences): open-ended questions about healthy lifestyle challenges, the adequacy of interventions such as physical activity programmes, nutrition education, and stress management techniques, and suggestions for improving workplace wellness and job satisfaction.

Interviews were conducted in English and isiXhosa, depending on participant preference, to ensure clarity and understanding. They were conducted via Microsoft Teams, recorded with participants' consent, and transcribed using the Teams transcription function. WhatsApp and email were used to share interview links, distribute information sheets, and manage the return of signed consent forms.

To protect confidentiality, participants were assigned identification numbers rather than names. Meeting links were restricted to the researcher and the participant, with no external access permitted. Recordings were stored securely on a password-protected internal hard drive, with encrypted backup copies saved on a detached external drive.

The interview guide was developed based on an extensive review of relevant literature on occupational health, workplace wellness, and lifestyle behaviours among healthcare professionals. It was further refined with input from academic supervisors to ensure content validity. To enhance reliability and clarity, the tool was piloted with two medical laboratory scientists who were not part of the main study. Feedback from the pilot study informed minor adjustments to improve question clarity, flow, and relevance.

This rigorous data collection process ensured that participants could engage openly, while their rights, privacy, and data security were safeguarded at all stages.

Ethics

Ethical approval was obtained from the Walter Sisulu University Faculty of Health Sciences Research Ethics Committee (REC-120209-020), and permission was granted by the Eastern Cape Department of Health (Reference No: EC 202407012). The study adhered to all ethical principles of autonomy, beneficence, and confidentiality. Written informed consent was obtained from all participants prior to data collection. Participation was voluntary, and participants were informed of their right to withdraw at any stage without penalty. Confidentiality and anonymity were ensured by using participant codes rather than names, and all data were stored securely on password-protected devices.

Data analysis

Data were analysed using thematic analysis following Braun and Clarke's six-step framework. Transcripts were read repeatedly for familiarisation and coded inductively to identify meaningful units of text. Related codes were grouped into categories and themes, which were reviewed and refined to ensure coherence. NVivo software was used to support data management and organisation.

RESULTS

Socio-demographic Characteristics

A total of 20 medical laboratory scientists participated in the study. Their age distribution is shown in Figure 1.

10 Participants were under 30 years old (5), between 30 and 40 years old (5), and over 40 years old (5).

This reflects a balanced mix of younger and mid-career professionals, providing diverse perspectives on lifestyle challenges.

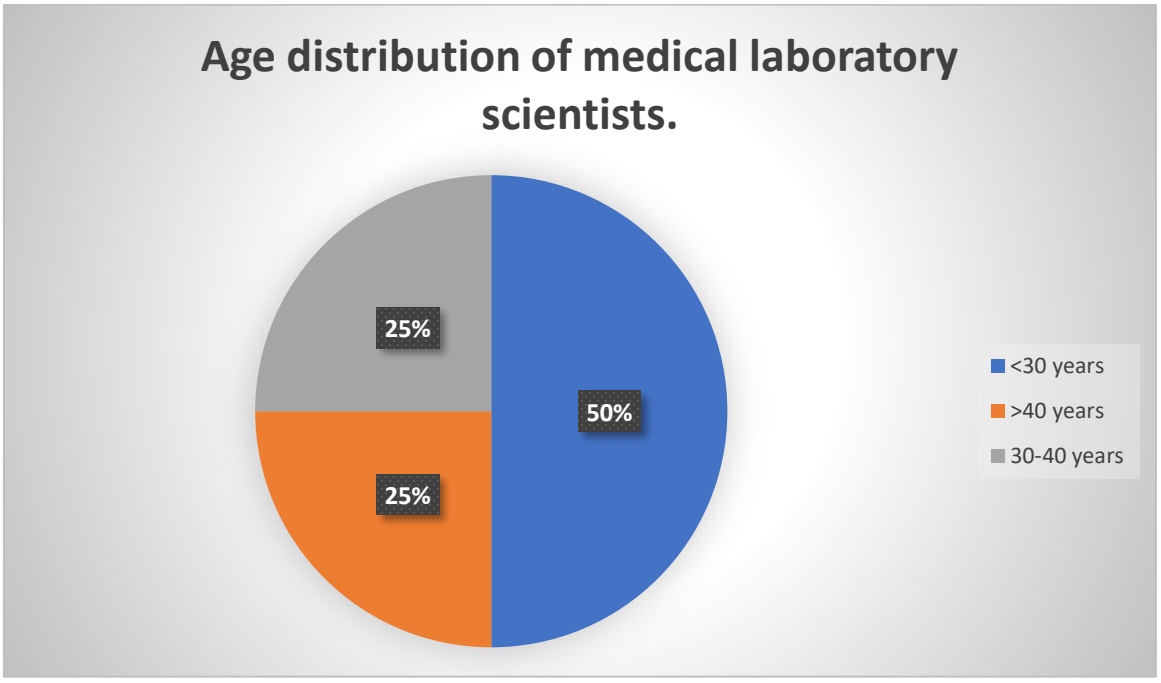

Figure 1:Age distribution of participants

THEMATIC ANALYSIS

Thematic analysis identified three main themes with several sub-themes. These are summarised in Table 1, which presents coding categories, descriptions, participant quotes, and associated themes.

Thematic Map

The interconnections between themes and subthemes are illustrated in Figure 2, showing how workload pressures, workplace interventions, and organisational policies collectively shape lifestyle outcomes.

Table 1: Themes, Numbered Subthemes, and Illustrative Quotes

Theme	Subtheme No.	Subtheme Title	Description	Illustrative Quote
Theme 1: Challenges to Maintaining a Healthy Lifestyle	1.1	Unhealthy food consumption	Limited access to nutritious meals at the workplace led to reliance on fast food and sugar-sweetened beverages.	"I struggle with making time to cook healthy meals, so I just grab vetkoeks and a fizzy drink." (P3)
	1.2	Time management constraints	Long working hours and irregular shifts reduced participants' ability to prepare healthy meals or engage in physical activity.	"After work I am too tired; I just eat cooked food and sleep." (P7)
	1.3	Workload and shift schedules	Extended shifts and unpredictable schedules resulted in physical exhaustion and reduced motivation for healthy behaviours.	"Most of the time I am at work — all I want to do is rest." (P11)
	1.4	Stress and mental fatigue	High work demands negatively affected participants' emotional, physical, and mental well-being.	"Our job is very stressful and draining emotionally, physically and mentally." (P2)
	1.5	Absence of support networks	Participants reported limited emotional and social support in the workplace.	"If I vent at work, I am judged incompetent; at home they depend on me." (P9)

Theme 2: Workplace Interventions and Organisational Support	2.1	Ineffective shift management	Poor scheduling practices limited rest breaks and contributed to stress and fatigue.	"Sometimes we were not even allowed to take a break due to short staffing." (P5)
	2.2	Lack of wellness programmes	Few structured wellness initiatives were available to promote healthy lifestyles.	"We don't have fitness classes or nutrition talks at work." (P14)
	2.3	Limited corporate wellness activities	Participants desired wellness activities beyond routine laboratory duties.	"We wish there were exciting things, more outside activities other than running tests." (P6)
	2.4	Insufficient management support	Employee well-being was perceived as a low priority by management.	"Our well-being is never considered a priority." (P10)
Theme 3: Organisational Policies to Improve Employee Well-being	3.1	Prioritisation of wellness programmes	Participants recommended structured wellness initiatives such as wellness days and stress management workshops.	"Even one wellness day a month would make a difference." (P1)
	3.2	Supportive workplace culture	Recognition and encouragement were identified as motivators for healthy behaviours.	"Encouragement and recognition would motivate us to stay healthy." (P8)
	3.3	Provision of health-promoting resources	Participants suggested on-site gyms, healthier food options, and counselling services.	"We need healthier food options and gyms at work." (P4)
	3.4	Professional and career development support	Access to professional counselling and growth opportunities was linked to improved morale.	"We need someone professional we can vent to, not just over the phone." (P13)

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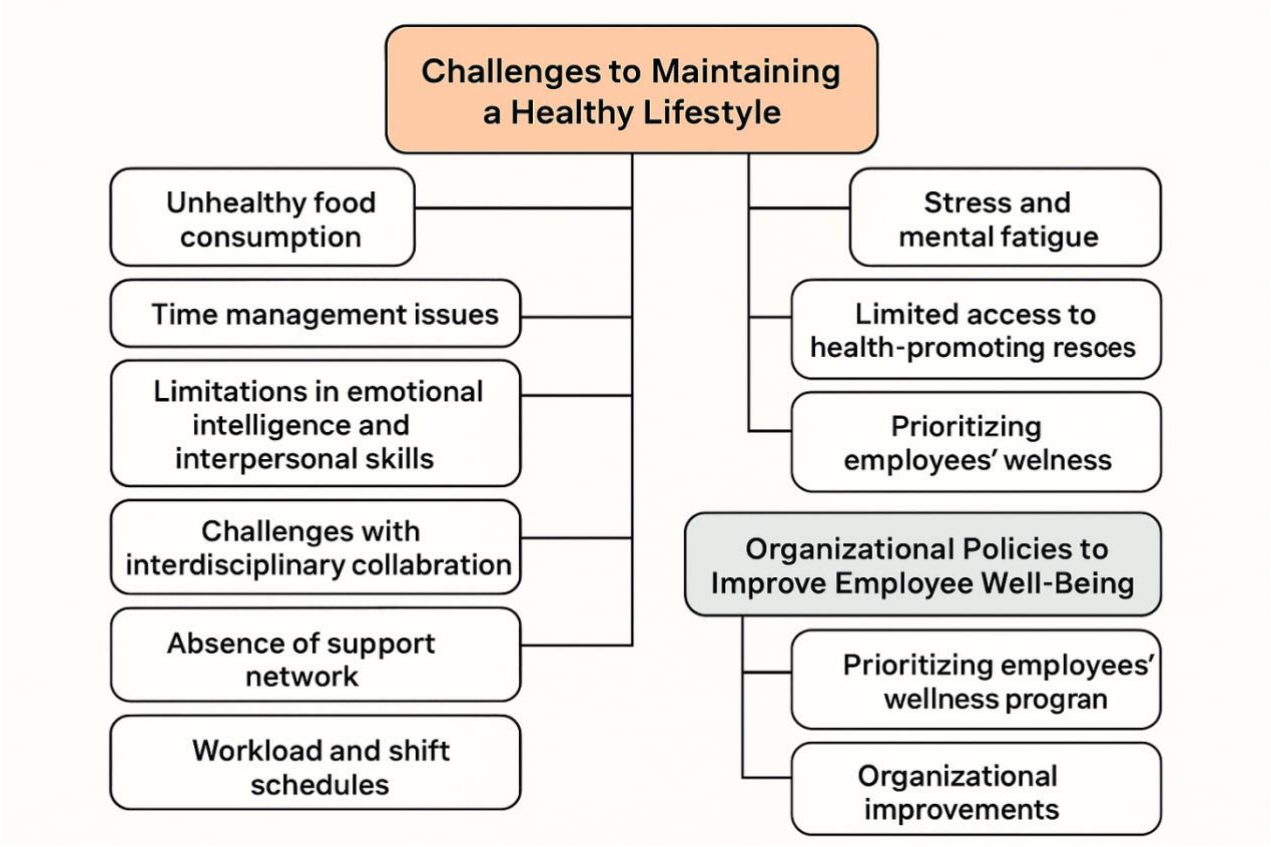

Figure 2: Thematic map outlining challenges to maintaining a healthy lifestyle amongst MLSs

DISCUSSION

This study explored the factors influencing healthy lifestyle practices among medical laboratory scientists working in public diagnostic laboratories in the Eastern Cape, South Africa. The findings demonstrate that lifestyle behaviours are shaped less by individual motivation and more by workplace demands, limited organizational resources, and institutional policies. Heavy workloads, time pressure, irregular shifts, and inadequate staffing constrained opportunities for healthy eating, exercise, and stress management. At the same time, the absence of structured wellness initiatives further reduced employees' capacity to prioritize self-care.

These findings are consistent with studies conducted in South Africa and other African settings, which report that healthcare workers frequently experience high workloads, staff shortages, and limited institutional support, all of which negatively affect their health behaviours and well-being. For example, Ndebele and Ndlovu (2023) found that burnout and occupational stress among South African healthcare workers are strongly linked to inadequate organizational wellness structures. Similarly, Chigodi et al. (2020) reported that employee wellness programmes in public hospitals are often poorly implemented, limiting their effectiveness in promoting healthy behaviours.

In Kenya, Mutiso et al. (2021) highlighted that workplace wellness programmes play a significant role in healthcare worker retention, yet implementation remains inconsistent due to resource constraints. In Ghana, Nsiah-Asamoah et al. (2021) also noted that healthcare professionals often adopt poor dietary practices during working hours due to workload pressures and lack of institutional support. Collectively, these studies reinforce the present findings that unhealthy lifestyle behaviours among healthcare workers are structurally driven rather than purely individual, highlighting the need for integrated organizational wellness interventions across African healthcare systems.

These findings align with research among healthcare professionals globally, where long working hours and high job demands are associated with poor dietary habits, physical inactivity, and burnout. From a job demands–resources perspective, excessive demands combined with limited organizational support deplete physical and psychological energy, leaving little capacity for preventive health behaviours. Similarly, the ecological view of health behaviour highlights that workplace environments and policies strongly influence individual choices, suggesting that lifestyle practices cannot be addressed through education alone.

Participants reported minimal access to wellness programmes, inadequate shift management, and limited managerial support. The absence of these organizational resources reduced engagement in health-promoting activities and contributed to stress and fatigue. Evidence indicates that supportive leadership, predictable scheduling, and accessible wellness initiatives can buffer occupational strain and promote well-being. Therefore, workplace health promotion should be embedded within organisational systems rather than implemented as optional or sporadic activities.

The findings have several practical implications. Healthcare organisations should prioritise low-cost, sustainable strategies such as flexible scheduling, protected break times, healthier food options during shifts, structured stress management support, and regular team-based wellness activities. Integrating wellness into routine operations and leadership practices may yield greater and more sustainable benefits than isolated interventions, particularly in resource-constrained public sector settings.

This study provides context-specific insights into the experiences of medical laboratory scientists, an under-researched professional group. However, the findings are limited to selected public laboratories and may not be transferable to other settings. Data were self-reported and cross-sectional, which may introduce recall bias and limit causal interpretation. Future research should evaluate the effectiveness of workplace wellness interventions using longitudinal and mixed-methods designs.

In conclusion, healthy lifestyle behaviours among medical laboratory scientists are strongly influenced by organizational and structural conditions. Sustainable improvements in employee well-being require systemic workplace and policy changes rather than reliance on individual behaviour modification alone

Limitations

The study focused on MLSs in selected public facilities within the Eastern Cape, which may limit generalizability to other contexts. Data were based on self-reported experiences, which may be influenced by recall or social desirability bias. Additionally, the cross-sectional design captures experiences at a single point in time and does not assess long-term effects of interventions.

CONCLUSION

Healthy lifestyle practices among medical laboratory scientists in the Eastern Cape are strongly influenced by organizational and structural workplace conditions rather than individual choice alone. Addressing heavy workloads, limited resources, and inadequate wellness support through integrated, policy-driven, and low-cost interventions is essential for improving employee well-being. Prioritizing workforce health may enhance staff retention, laboratory performance, and overall healthcare service delivery.

Conflicts of Interest

O.O. and A.A.A.A. are members of the Editorial Board. They were not involved in the editorial handling, peer review, or publication decision for this manuscript. The remaining authors declare no competing interests.

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