

Understanding Cardiovascular Risk Awareness and Intervention Preferences Among Sedentary Employees in Karachi, Pakistan

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Objectives

- 1) To explore awareness and perceptions of CVD risk among sedentary employees (bank employees) in urban Karachi, and
- 2) To identify employee preferences for workplace CVD prevention interventions to inform the development of a culturally and contextually tailored mHealth-supported intervention for sedentary employees.

Introduction

- Physical inactivity and unhealthy dietary patterns are major modifiable drivers of CVD.
- In South Asian settings, rapid urbanization, sedentary occupations, and shifts toward energy-dense diets have accelerated the cardiometabolic burden.
- Office-based workers who spend prolonged periods sitting such as bank employees face high risk due to occupational sedentary behavior, long working hours, and workplace stressors.
- Despite the occupational vulnerability of this group, few context-specific interventions have been developed or evaluated in Pakistan.

Methodology



- Exploratory qualitative study.
- Purposively selected Bank employees, aged 20–65 years across three bank organizations (1 public and 2 private) in Karachi, Pakistan.
- Employees with self-reported CVD were excluded.
- FGDs, n=6, (34 participants) and IDIs, n=9
- FGDs- tellers, customer service personnel, human resource, etc.
- IDIs - Senior positions, Directors/Head, Managers.
- Semi-structured guide informed by HBM.
- Thematic content analysis using Braun and Clarke’s six-step approach.
- Used inductive and deductive approaches.
- To ensure rigor and trustworthiness, Lincoln and Guba framework used.

Table 1: Overview of Major Themes and Subthemes generated from FGDs and IDIs with bank employees in Pakistan

Themes	Sub themes	Quotes
Theme 1: Awareness (Knowledge of specific behaviors/factors)	General understanding of CVD	“Heart diseases are primarily caused by high cholesterol levels and an increase in blood pressure” “Oily foods should generally be avoided to prevent such conditions” “When a person is inactive, their body becomes sluggish. The blood circulation weakens, and blood flow starts to become thick.”
	Gap between knowledge and practice	“Even though I’m fully aware... I still say, “Yeah, it’s fine.” “Everyone is busy or not interested in getting involved in these things... we usually pay attention to our health only when a disease reaches its final stage.” “We just eat and stay seated. Many people probably don’t feel like moving around.”
Theme 2: Perception of challenges for healthy lifestyle	Perceived causes of CVD among bank employees	“We eat very late. We eat at the wrong time. And what we eat is junk food.” “We don’t do any activity or gym in our daily routine.” “We do not have any avenues in the city. You just eat in the name of family fun or do you walk in the mall?...” smoking is a very bad habit in our industry.”
	Perceived high risk among bank employees	“Employees with target-based deposit jobs, experience more pressure.....stress increases, impacts blood pressure and leads to diseases” “Tension is the main reason for CVD... you have to take care of your home, your children... and your job.” “People come to office at 9 am and stay seated until 9 pm.” “Our priority is client” ... “the shortage of time”
Theme 3: Preferences regarding CVD risk factors prevention	Create awareness & highlight benefits	“If we truly understand the benefits, I think we will do it” “Fruits are available everywhere, but employees don’t eat them, perhaps because they are unaware of the benefits” “We don’t always know the best time to walk, how many steps to take, or the ideal walking distance”
	Preferred formats for communicationDr. conduct a session in person for all of us” “Reaching each employee personally will be time and resource intensive” ...receive a message or voice note to remind them” “Smartwatches have all the features—you can check your heart rate”
	Need for structural changes	“Bank managers should remind all employees” “If HR asks us every month to send a report, e.g. Wear masks (during Covid-19)” “Send a daily email saying, Start your 20-minute break.” “The bank, through its connections with health organizations, could arrange for employees to attend a seminar or session to raise awareness” “... offer gym memberships” “Working hours should be reduced” “... paperless banking”

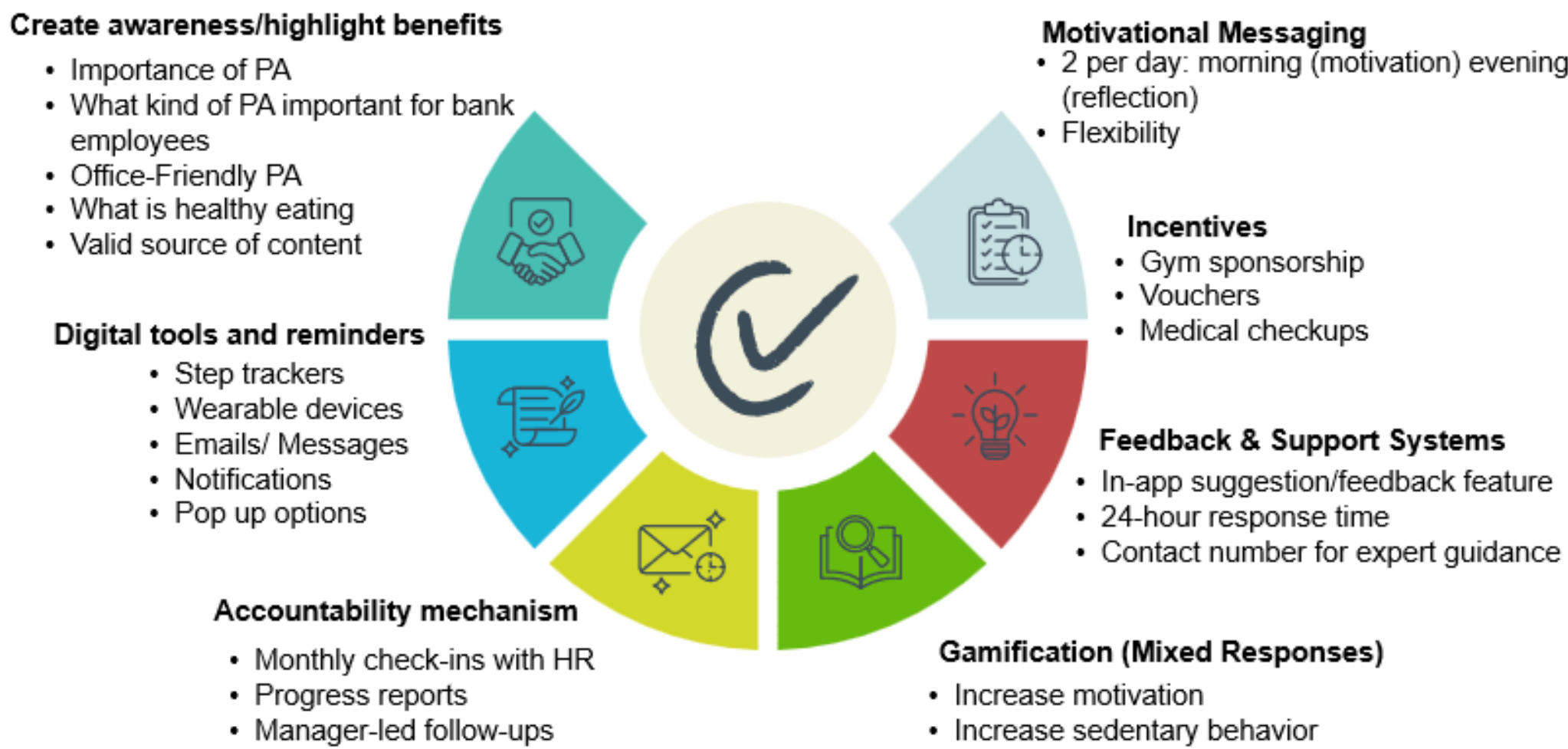
Results

- Among FGD participants, 60% were male, with a median age of 37 years (range: 27–60) and a median work experience of 7 years (range: 2–20).
- Among IDI participants, 66% were male, with a median age of 40 years (range: 35–51) and a median work experience of 13 years (range: 8–20).
- Most participants held a master’s degree.
- Three major themes were identified and are presented in Table 1.
- Participant-derived CVD prevention strategies are illustrated in Figure 1.

Conclusion

Participants prefer interventions that are digitally enabled, and embedded into workplace routines combined with initial in-person engagement and organizational support. The findings support the co-design of a behaviorally informed, context-tailored workplace CVD prevention program that pairs low-effort digital tools with feasible structural changes (e.g., protected breaks, on-site facilities, incentive mechanisms). Implementation should prioritize managerial buy-in, and ease of use to promote reach and sustainability. Future work will pilot the co-designed intervention within the *m-LIFE* trial to evaluate feasibility, acceptability, and efficacy on PA, and dietary behaviors.

Figure 1: Workplace CVD Prevention Strategies Identified by Participants



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Abbreviations: CVD: Cardiovascular Disease, PA: Physical Activity, FGDs: Focus Group Discussions, IDIs: In-depth Interviews, HBM: Health Belief Model

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