

Exploring the Experiences of Urban Patients Undergoing Primary Percutaneous Coronary Intervention following Acute Myocardial Infarction: A Qualitative Study

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ABSTRACT

Objectives: The aim of the study was to explore the experiences of urban patients with acute myocardial infarction following primary percutaneous coronary intervention, and to highlight their views, feelings, and challenges in order to ensure that care meets their needs.

Methods: Using a qualitative approach, a purposive sample of eight urban participants from a cardiac unit in Cairo University Hospital – Egypt underwent semi-structured interviews during the period from September 2019 to March 2021. Purposive sampling was used to select eight urban participants meeting the study criteria. Inclusion criteria were adult urban patients with acute MI for the first time, admitted to the critical care unit, and underwent primary coronary intervention. Exclusion criteria were any patients with a known history of mental diseases or those residing in non-urban areas. Using bracketing, thematic coding, and synthesis of lived meanings, data were examined via a five-step phenomenological analysis approach. Manual method was used for qualitative data analysis, no software was used. Microsoft Excel was used for the prescription of participants' demographic data.

Results: Four main themes emerged from analysis: (1) Unexpected Life Event, reflecting the sudden traumatic nature of AMI; (2) Overwhelming Challenges, including physical limitations, emotional distress, and financial strain; (3) Coping Mechanisms, including reliance on social support, spiritual faith, and lifestyle modifications; and (4) Recovery Process, stressing patients' slow adaptation and trust in healthcare providers. Among urban participants, coping and recovery were substantially aided by cultural elements, particularly religious beliefs, family networks, and access to urban healthcare resources.

Conclusion: Emphasizing the need for comprehensive, culturally sensitive treatment approaches that address not only medical recovery but also the challenging physical, emotional, financial, and spiritual dimensions of illness, the findings highlight the profound impact of AMI and PCI on urban Egyptian patients' lives, underscoring the importance of patient-centered care within urban healthcare settings.

Keywords: Acute myocardial infarction; Primary percutaneous coronary intervention; Urban patients; Lived experience; Phenomenological research; Coping mechanisms; Cardiac rehabilitation.

INTRODUCTION

One of the main causes of death globally still is acute myocardial infarction (AMI), sometimes referred to as a heart attack.¹ Medical treatment advances, especially with regard to primary percutaneous coronary intervention (PCI), have greatly raised patient survival rates and clinical outcomes.² Though the physical features of AMI and its treatment are well-researched, less has been done on the personal experiences of patients along their path—from the start of symptoms to recovery following PCI. Providing patient-centered care that attends to not only the body but also the mind and emotions of people impacted depends on an awareness of these events.

Patients having primary PCI sometimes experience a sudden and life-altering event. Uncertainty, anxiety, and a feeling of vulnerability define the sometimes taxing process.³ Studies on how patients view and understand their symptoms, decide whether to seek treatment, and handle the operation and recovery have revealed rather different results.² Some patients, for instance, might postpone getting treatment if they misinterpret their symptoms or minimize their intensity.¹ Others might find difficulty adjusting to lifestyle changes later on or suffer with anxiety during the operation.⁶ Their long-term well-being and recovery can be much affected by these events.

Though patient experiences are becoming more and more important, there are still gaps in how these ideas are included into clinical practice. While few studies investigate the emotional, psychological, and social aspects of recovery, most concentrate on medical results including survival rates and complications.⁷ Through examining personal stories and viewpoints, qualitative research can provide insightful analysis of these sometimes disregarded elements. By listening to patient experiences, doctors can provide more customized care plans, emotional comfort, and more clear communication. Emphasizing patients' views, feelings, and challenges will help to ensure that treatment meets their psychological, emotional, and physical needs, so promoting more compassionate and successful treatment. This study provides a novel insight into the subjective experiences of Egyptian patients recovering from their first episode of AMI treated with PCI. It addresses a critical gap in the literature by incorporating a phenomenological lens to explore how patients interpret and cope with their illness and recovery. Thus, the aim of the study was to explore the experiences of urban patients with acute myocardial infarction following primary percutaneous coronary intervention and to highlight the patients' views, feelings, and challenges which will help to ensure that treatment meets their needs. Formulated as a research question to meet this goal was: Following primary percutaneous coronary intervention for acute myocardial infarction, what are the various lived experiences of urban patients?

METHODS

Research Design

Following primary coronary intervention, the lived experiences of acute myocardial infarction patients were investigated using Benner's (1994) interpretive phenomenological approach in a descriptive

exploratory qualitative design. Descriptive phenomenology reduces presumptions by allowing a direct and simple presentation of participants' experiences.⁸ This method offers rich, contextual insights into the emotional and psychological effects of surviving a major cardiac event, so helping one to grasp difficult human experiences.⁹

Inspired by "thick description" ideas, the exploratory character of the design helped the limited qualitative research in this field to be discovered new insights and deeper knowledge.¹⁰

Setting and Sampling

Associated with the Critical Care Medicine Department of Kasr Al-Aini, Cairo University Hospitals, Egypt, the present study was carried out in Critical Care Units 1 and 2. These specialized facilities serve the management of critically ill patients with a variety of medical illnesses. Significantly, they have three separate cardiac catheterization labs, which offer patients presenting with acute myocardial infarction main coronary interventions. This location provided the best conditions for gathering patients who had undergone primary PCI and suffered from acute myocardial infarction.

Participants were sought using purposeful sampling according to their capacity to offer rich, detailed narratives of their lived events following acute myocardial infarction and primary coronary intervention. A form of non-probability sampling, purposeful sampling lets researchers specifically choose people who fit particular criteria pertinent to the goals of the study and are information-rich.^{11,12} Adult male and female urban patients without a known history of mental illness who were admitted to the critical care units following a first episode of acute myocardial infarction and primary PCI comprised the inclusion criteria. Residence in an urban area was an additional inclusion criterion; patients from rural or peri-urban areas were excluded. Sampling continued until data saturation was reached after including eight urban participants, with no new themes emerging from subsequent interviews.

Instrumentation

Data collecting for this study made use of two main qualitative tools: field notes and a semi-structured interview guide. Developed in simple Arabic language, the semi-structured interview guide (Appendix B) consisted of open-ended questions meant to inspire participants to thoroughly investigate and express their feelings, beliefs, perceptions, and unique experiences following acute myocardial infarction and primary coronary intervention. Rich, contextual data was obtained by means of field notes documenting the researcher's observations of participants' nonverbal communication, emotional expressions, and the background of the interview sessions, so augmenting the interviews. Additionally, an audio recorder was employed, with participants' consent, to accurately capture interviews for later transcription and analysis. A demographic and medical data sheet (Appendix A) was also used to collect essential background information, including hospital number, date of admission, contact details, age, gender, marital status, educational level, place of residence, diagnosis, details of the coronary intervention, and the intervention outcome.

Procedure of data collection

The study was conducted in two phases: preparatory and implementation. In the preparatory phase, the researcher developed the data collection instruments, including the Patients' Demographic and Medical Data Sheet (Appendix A) and the Patients' Semi-Structured Interview Questionnaire (Appendix B). Official permissions were obtained from the Critical Care Medicine Department, and a setting assessment was conducted to ensure the availability of eligible participants. Meetings with medical and

nursing staff provided information about the flow of acute myocardial infarction cases and the use of primary coronary intervention.

The implementation phase began after receiving ethical approval. Data collection occurred over 18 months (September 2019–March 2021) at the critical care units of Kasr Al-Aini - Cairo University Hospitals. The researcher visited the units three times weekly to recruit participants who met the inclusion criteria. After explaining the study and obtaining written informed consent, individual interviews were conducted in simple Arabic language, using open-ended questions. Interviews were recorded using an audio recorder, and field notes were taken to capture non-verbal communication. Participants were urged to speak honestly and each interview ran 25 to 60 minutes. Two phone numbers were obtained from every participant; follow-up calls scheduled after discharge for member checking. The instruments were confirmed in clarity and feasibility by a pilot study involving two participants; since no changes were required, they were included into the final sample.

Trustworthiness

Careful attention to control and validity helped to guarantee that the study results fairly reflected the experiences of the participants instead of the researcher's impressions. Planned follow-up phone calls to participants following data analysis helped to preserve trustworthiness. Often referred to as member checking, this process let participants confirm the validity and meaning of the gathered data, so guaranteeing the integrity of the study results.

Data Analysis

Patients' lived events were investigated and comprehended using phenomenological analysis. The depth and richness of participants' emotions and impressions of their acute myocardial infarction and coronary intervention experiences were sought to be captured using this approach. The study proceeded in five methodical steps:

First, the researcher deliberately set aside personal prejudices and past presumptions using a phenomenological approach, so enabling complete engagement with the participants' points of view. Second, the researcher went over the whole transcribed interviews several times to create a comprehensive awareness of the data, so enabling first insights to flow naturally.

Third, meaning units were delineated by reviewing transcripts line by line, identifying significant statements, and coding them manually in the margins. Important shifts in participants' narratives were noted, and each key expression was labeled to reflect its essence. Fourth, the researcher transformed meaning units into psychologically sensitive statements, rewording them carefully to preserve the participants' original intent while interpreting their underlying psychological meaning. Themes were developed by clustering related meaning units together. Finally, a general psychological structure of the experience was synthesized. Emergent themes were integrated into a comprehensive description that reflected both common patterns and unique variations among participants. Throughout the process, the researcher repeatedly returned to the original transcripts to validate the accuracy of the interpreted meanings. To enhance the credibility of the analysis, peer debriefing was conducted with another qualitative researcher.

Thematic analysis was inductive, grounded in participants' own words without imposing pre-existing categories. Manual coding was employed without the use of qualitative analysis software, Microsoft Excel was used for the prescription of participants demographic data.

Ethical Considerations

Ethical approval was obtained from the Research Ethics Committee of the Faculty of Nursing, Cairo University (# 2018-51) on 28 October 2018. Additionally, official permission to conduct the study was secured from the concerned hospital authorities. Participation in the study was entirely voluntary, based on obtaining informed consent from either the patient or a responsible family member, in accordance with principles of confidentiality and anonymity. An oral explanation of the study purpose, procedures, and participants' rights was provided to each participant prior to the interview. Participants were informed that they could withdraw from the study at any time without providing any justification.

After each interview, the researcher transcribed the recording verbatim. To ensure anonymity, participants were assigned coded identifiers (lettered numbers) instead of using personal information. Participants were reassured that all audio recordings would be securely stored in a locked location known only to the researcher. These recordings will be retained for five years for verification purposes and then permanently deleted.

RESULT

This qualitative study explored the lived experiences of 8 urban acute myocardial infarction (AMI) patients following primary percutaneous coronary intervention. As shown in Table 1, the participant group was predominantly male (n=7, 87.5%) with a mean age of 61.5 years (range: 45-82 years). Educational backgrounds varied among participants, with 1 patient (12.5%) having primary school education, 2 patients (25%) holding diplomas, and 4 patients (50%) holding university degrees. All participants were urban residents (n=8, 100%), with the majority being married (n=7, 87.5%).

Table I: Demographic Characteristics of Urban Study Participants (n=8)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	7	87.5%
	Female	1	12.5%
Age Group	45-54 years	3	37.5%
	55-64 years	2	25%
	65-74 years	2	25%
	75-85 years	1	12.5%
	Mean \pm SD of age: 61.5 \pm 8.12		
Education Level	Primary school	1	12.5%
	Diploma	2	25%
	University	4	50%
	Other/Unknown	1	12.5%
Residence	Urban	8	100%
Marital Status	Married	7	87.5%
	Single/Other	1	12.5%

Table II: Major Themes of Lived Experiences Post-PCI

Theme	Key Subthemes	Representative Findings
Unexpected Life Event	<ul style="list-style-type: none"> • Severe pain • Life threat awareness (50%) • Diagnostic complexity 	"Burning like fire" chest pain; near-death experiences
Overwhelming Challenges	<ul style="list-style-type: none"> • Physical limitations (63%) • Negative emotions (38%) • Financial burden (25%) 	Persistent fatigue; self-blame among smokers
Coping Mechanisms	<ul style="list-style-type: none"> • Positive mindset • Social support (50%) • Religious faith (50%) • Lifestyle changes (63%) 	Family support; smoking cessation plans
Recovery Process	<ul style="list-style-type: none"> • Hope for future • Spiritual coping • Healthcare satisfaction (75%) • Procedure gratitude (25%) 	"Transformative" angioplasty; praised medical teams

Analysis of participant interviews revealed four central themes characterizing patients' lived experiences following acute myocardial infarction and primary coronary intervention. The first theme, Unexpected Life Event, emerged from all participants' accounts of sudden-onset, excruciating chest pain described through visceral metaphors like "burning like fire" (Participant 3) or "being stabbed with a knife" (Participant 7). As detailed in Table 2, this acute crisis triggered profound existential awareness, with 50% of participants reporting immediate life-threat perceptions. One participant recounted: "I said the Shahada [Islamic testimony of faith] during the procedure - I truly believed I was dying" (Participant 9), reflecting how these experiences fundamentally altered their worldview.

The second theme, Overwhelming Challenges, encompassed both physical and psychosocial struggles during recovery. Quantitative findings in Table 2 highlight that 63% of participants faced persistent physical limitations, particularly fatigue and breathlessness that restricted daily activities. Concurrently, 38% reported significant emotional distress, including anxiety and self-blame, with smokers disproportionately expressing guilt about their health behaviors. Financial strain compounded these challenges for 25% of participants, exemplified by one patient's distress: "They cut my pension...how will I pay for these stents?" (Participant 14).

Participants' adaptive responses formed the third theme, Coping Mechanisms, with distinct patterns emerging. Social support systems proved crucial for 50% of participants, who emphasized family members' instrumental role in recovery. An equivalent proportion (50%) drew strength from religious faith, describing prayer and spiritual acceptance as therapeutic. Table 2 reveals that lifestyle modifications were the most prevalent strategy, with 63% committing to smoking cessation, dietary changes, or stress reduction. "I'll never touch cigarettes again - this pain taught me life's value" (Participant 5) typified this transformative mindset.

The final theme, Recovery Process, documented patients' gradual adaptation. Remarkably, 75% expressed strong satisfaction with healthcare services, particularly valuing clinicians' clear communication. As Table 2 notes, 25% specifically characterized the angioplasty as "transformative" (Participant 11), while others described renewed life purpose: "This second chance means I'll see my grandchildren grow" (Participant 6). Spiritual reflection facilitated acceptance for many, with one participant philosophizing: "This illness was God's test - and His mercy saved me" (Participant 12).

DISCUSSION

This qualitative study explored the profound challenges and coping strategies of urban Egyptian patients who underwent primary percutaneous coronary intervention (PCI) after acute myocardial infarction (AMI). Using Benner's interpretive phenomenological approach, we analyzed the lived experiences of 8 urban participants (87.5% male, aged 45–82 years). The findings revealed four key themes that reflected both universal struggles of AMI survivors and the distinctive characteristics of the urban Egyptian healthcare environment.

The first theme, "*Evolving of an unexpected stressful life event,*" captured the sudden and traumatic nature of AMI. Consistent with results by Ferry et al. (2020),¹³ participants reported excruciating chest pain—many of which described as the worst pain of their life. With several people characterizing the event as a near-death experience,¹⁴ the startling awareness of mortality during it left long-lasting psychological effects. Commonly mentioned were diagnostic delays and first misdiagnoses, which underlined the need of raising public knowledge of AMI symptoms inside Egypt's healthcare system.¹⁵ The second theme, "*Facing overwhelming challenges,*" exposed the several challenges followed by PCI. Physical restrictions that seriously interfered with daily functioning included breathlessness and chronic tiredness.¹⁶ Particularly in former smokers, emotional pain showed up as anxiety, depression, and, occasionally, self-blame. Common struggle was disruption of social roles, including the impossibility to resume employment or family obligations. Particularly among low-income participants, financial burden resulting from medical expenses and lost income compounded the load.¹⁷

Emphasizing several resilience techniques, the third theme, "*Coping and support,*" Many of the participants expressed thanks for survival and confidence in medical treatment, so fostering a positive attitude.¹⁸ Often reported were lifestyle changes including dietary improvements and smoking cessation. The recovery process benefited much from strong social support from family members and healthcare providers.¹⁹ Moreover, spiritual faith developed as a major coping strategy reflecting the value of religion in Egyptian society.

The last theme, "*Process of overcoming the situation,*" showed how patients progressively adjusted to their changed conditions. Particularly important in Egypt's resource- constrained environment was trust in healthcare providers.²⁰ Supported by religious faith, hope for the future helped many participants find fresh meaning and purpose following their AMI.^{21,22} These results line well with those of Sanaie et al. (2021), who underlined the need of dedication to cardiac rehabilitation.²³

This study offers insights into the cultural aspects of coping and adaptation among urban AMI survivors in Egypt, adding to the existing body of knowledge. These results have significant implications for designing support systems and culturally sensitive nursing interventions tailored to urban settings, aimed at improving patient recovery following primary PCI.

Limitations

This research has several limitations. The modest sample size (N=8) drawn exclusively from an urban setting restricts the generalizability of findings to non-urban populations. Participants' self-reported experiences could have been influenced by potential recall and social desirability biases. Given the predominance of male participants (87.5%), the perspectives of female AMI survivors may be underrepresented. The urban-only focus, while providing depth of insight into this specific context, precludes comparison with rural or peri-urban patient experiences. The cross-sectional design, furthermore, lacks the capacity to capture long-term adaptation, offering only a snapshot of patients' recovery trajectory. Deeper study of financial difficulties was limited by variations in clinical severity and comorbidities not methodically evaluated and by thorough socioeconomic data not gathered. Notwithstanding these limitations, the study provides insightful analysis of the lived experiences of AMI patients in Egypt, so guiding culturally sensitive, patient-centered treatments and pointing up areas of future research need.

CONCLUSION

This study deepens understanding of the actual experiences of urban Egyptian patients recovering from AMI following primary PCI. Four main themes emerged from in-depth qualitative analysis: the traumatic impact of AMI as a sudden, life-altering event; the multifarious physical, emotional, social, and financial challenges during recovery; the vital role of coping strategies such as a positive mindset, social support, and spirituality; and the gradual process of adaptation grounded in trust in healthcare, hope, and resilience. These results draw attention to the intricate interaction among medical, psychological, and sociocultural elements in post-AMI recovery within Egypt's particular healthcare environment. The study emphasizes how urgently comprehensive, patient-centered care models that handle not only physical rehabilitation but also mental health support, financial counseling, and culturally sensitive interventions address not just the resiliency shown by individuals in spite of structural obstacles provides insightful information for bettering cardiac treatment in environments with limited resources. Future studies should broaden to include various populations and longitudinal approaches in order to validate and build on these conclusions even more.

Ethical permission: Ethical approval was obtained from the Research Ethics Committee of the Faculty of Nursing, Cairo University (# 2018-51).

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