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PRE-OPERATIVE FASTING COMPLIANCE IN ELECTIVE ADULT SURGICAL PATIENTS AT A TERTIARY CARE HOSPITAL OF PESHAWAR- A CLINICAL AUDIT

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ABSTRACT

Introduction: Preoperative fasting (POF) is a standard practice to reduce the risk of aspiration and related complications during anesthesia. However, prolonged fasting beyond recommended durations can lead to patient discomfort, dehydration, and metabolic disturbances. International guidelines recommend fasting for six hours for solids and two hours for clear fluids before anesthesia. This audit aimed to evaluate POF practices at Northwest General Hospital Peshawar (NWGH) and compare them with international recommendations.

Methodology: This clinical audit included 218 adult patients undergoing elective surgery under general or spinal anesthesia at NWGH between August 1 and October 31, 2024. Pediatric, pregnant, emergency, and non-consenting patients were excluded. Data were collected using a structured, interviewer-administered questionnaire assessing demographic characteristics, knowledge of POF, fasting duration, sources of fasting instructions, and associated complications.

Results: Among the 218 patients, 57.8% were male and 42.2% female. While 97.7% recognized the importance of POF, 56% were unaware of its primary purpose. Only 7% adhered to the recommended six-hour fasting duration for solids, while 43% fasted for 9-10 hours, and 8% exceeded 12 hours. For clear fluids, only 4% fasted for the recommended two hours, while 61% fasted for 7-8 hours. Prolonged fasting led to discomfort and metabolic issues.

Discussion: The findings highlight significant deviations from recommended POF practices, with inconsistencies in patient education and institutional policies. Extended fasting negatively impacted patient well-being and surgical outcomes. Standardized educational interventions and policy updates are necessary to align practices with international guidelines.

Conclusion: Prolonged POF remains prevalent at NWGH due to inconsistent guidelines and inadequate patient education. Updating institutional policies, enhancing provider training, and improving communication can optimize patient comfort and safety.

INTRODUCTION:

Worldwide, patients undergoing surgery benefit from the well-established practice of preoperative fasting (POF). Abstinence from all foods and beverages for a predetermined period of time before to the induction of anesthesia and/or the start of operation is known as POF. The length of POF depends on the patient's condition, diet, and type of surgery (elective or emergency). POF shortens hospital stays and associated expenses by decreasing the frequency of vomiting, aspiration, and the complications they cause [**1, 2, 3].** Although there is no scientific proof for it, it has become standard practice at Northwest General Hospital and the majority of other hospitals across the province to have patients who are awaiting elective surgery refrain

from eating anything after midnight. Additionally, especially in patients at extremes of age, prolonged fasting can have negative consequences on them, including headaches, hypoglycemia, dehydration, and irritability and a shorter POF is advised by recently revised guidelines **[1,2]**, which benefits the patient by "increasing postoperative comfort, improving insulin resistance, and reducing the stress responses."[**4]** Worldwide, a standard period of POF has been established, which is dependent on the patient's diet, whether it be liquid or solid. According to recommendations made by the European Society of Anaesthesiology, "all healthy elective adult patients should be allowed to eat a light meal until six hours prior to the induction of anesthesia and all healthy elective adult patients should be allowed to drink water or other clear fluids until two hours prior to the induction of anesthesia."**[1]** This audit's objectives were to evaluate the preoperative fasting practices currently used in Northwest General Hospital Peshawar (NWGH) for adult patients awaiting elective surgery, compare them to the recommendations provided by the European Society of Anesthesiologists, and assess the risks of extended fasting.

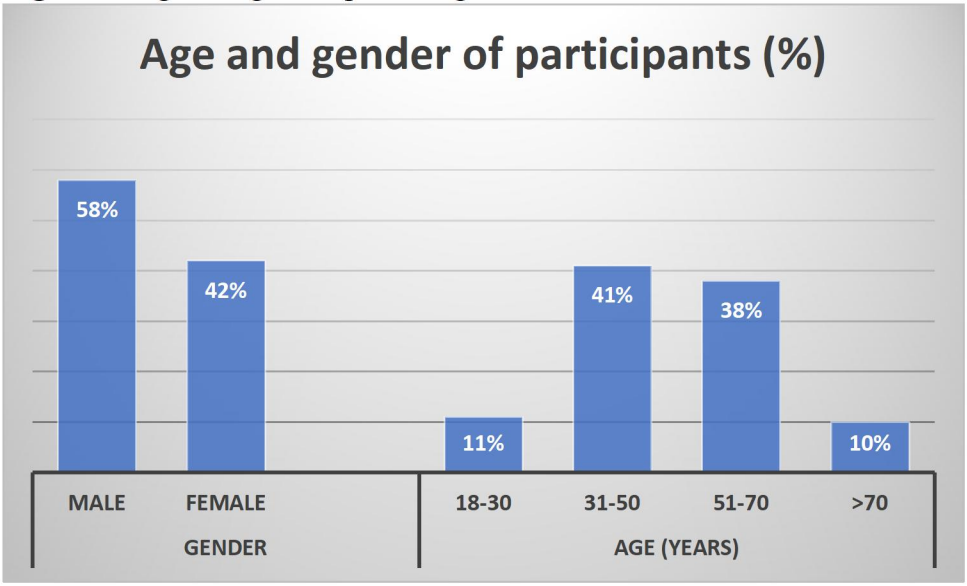
Methodology: All consecutive adult patients awaiting to undergo elective surgery under spinal or general anaesthesia at NWGH who were eligible for the study based on the inclusion exclusion criteria were interviewed during the study period. Patients who were excluded from the study were: paediatric patients (patients aged less than18 years of age), pregnant patients, patients who underwent emergency surgery, and non-consenting patients. Data collection was done over 3 months, from 1st August 2024 to 31st October 2024 using an interviewer administered structured questionnaire. It was filled before the induction of anaesthesia, in the wards by house officer and medical officer, involved in the care to the patient, following informed written consent. The questionnaire collected data on demographic characteristics (age and gender) patient's reason for POF and their perceived importance of POF, source of POF instructions, duration of preoperative fasting, premedication practices, and outcome of prolonged fasting with associated complications.

Results: Among the 218 patients, 126 (57.8%) were male and 92 (42.2%) were female. Age distribution showed that 24 (11.0%) patients were aged 18-30 years, 91 (41.7%) were 31-50 years, 83 (38.1%) were 51-70 years, and 22 (10.1%) were over 70 years. Figure 2 provides a visual representation of the age and gender percentages

Table 1: Age and gender frequency

		Number of patient (n=218)
Gender	Male	126
	Female	92
Age (years)	18-30	24
	31-50	91
	51-70	83
	>70	22

Figure 1: Age and gender percentage

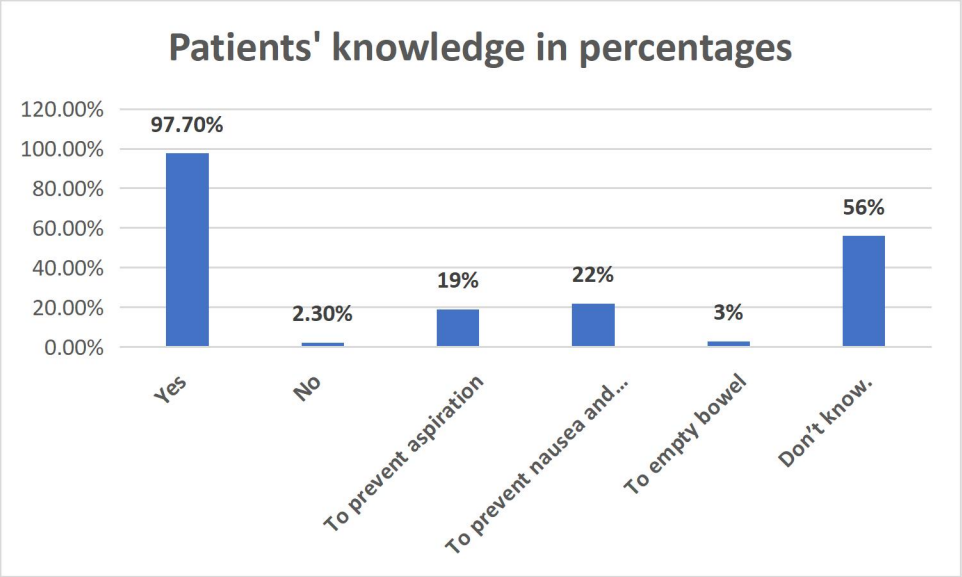


Among the 218 patients, 213 (97.7%) believed preoperative fasting (POF) is important, while 5 (2.3%) did not. When asked about the reason for POF, 43 (19.7%) stated it prevents aspiration, 47 (21.6%) mentioned it prevents nausea and vomiting, 6 (2.8%) believed it helps empty the bowel, and 122 (56.0%) did not know the reason. Figure 2 visually represents patients' knowledge about POF in percentages.

Table 2: Patients' knowledge of Pre op fasting.

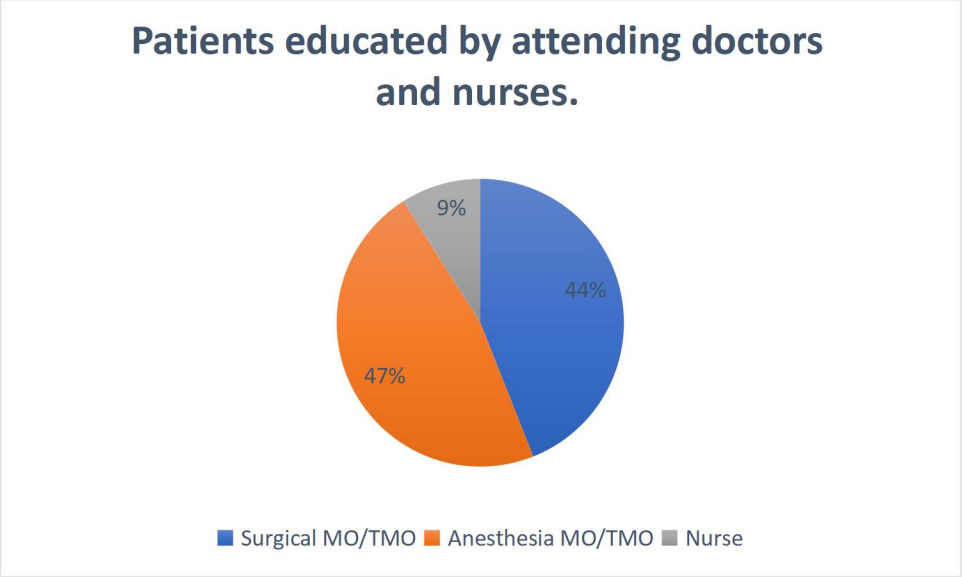
		Frequency (n=218)
Is pre op fasting important?	Yes No	213 05
Patients' explanation for pre op fasting	To prevent aspiration To prevent nausea and vomiting To empty bowel Don't know.	43 47 6 122

Figure 2: Patients' knowledge about POF in percentages



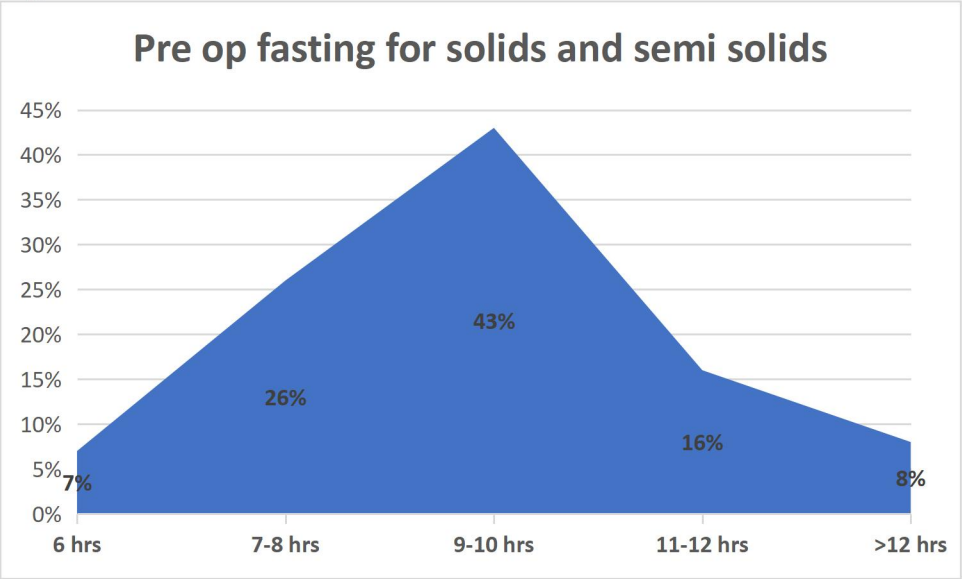
Among the 218 patients, 102 (47%) received preoperative fasting education from an anesthesia medical officer/trainee medical officer (MO/TMO), 96 (44%) were educated by a surgical MO/TMO, and 20 (9%) received information from a nurse. Figure 3 provides a visual representation of the sources of patients' education on preoperative fasting.

Figure 3: Patients' education of Pre op fasting.



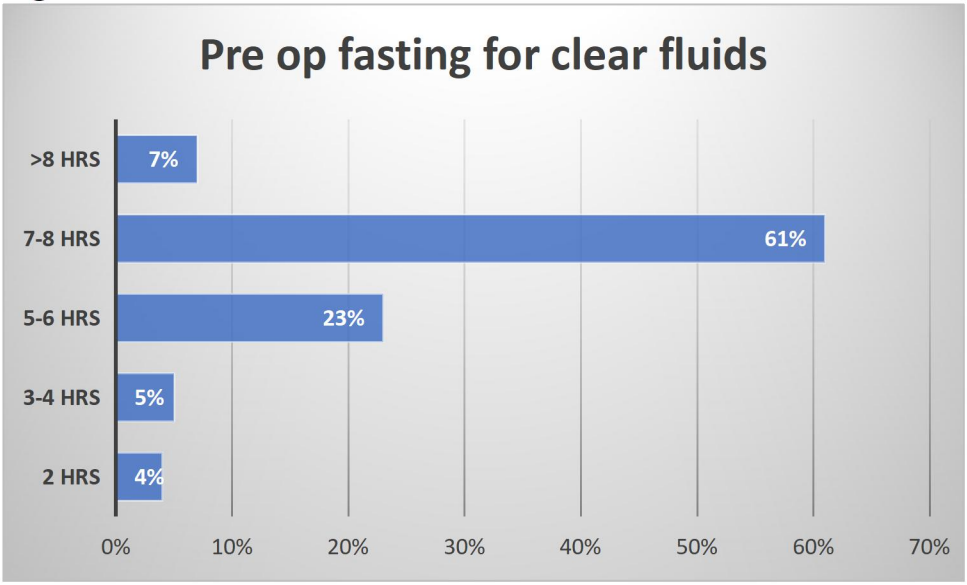
Among the 218 patients, the duration of preoperative fasting (POF) for solid and semi-solid foods varied. Fifteen patients (7%) fasted for 6 hours, 57 (26%) fasted for 7-8 hours, 94 (43%) fasted for 9-10 hours, 35 (16%) fasted for 11-12 hours, and 17 (8%) fasted for more than 12 hours. Figure 4 visually represents the distribution of fasting durations.

Figure 4: POF for solids and semi solids



Among the 218 patients, the duration of preoperative fasting (POF) for clear liquids varied. Nine patients (4%) fasted for 2 hours, 11 (5%) fasted for 3-4 hours, 50 (23%) fasted for 5-6 hours, 133 (61%) fasted for 7-8 hours, and 15 (7%) fasted for more than 8 hours. Figure 5 visually represents the distribution of fasting durations for clear fluids.

Figure 5: POF for clear fluids



Discussion:

The practice of preoperative fasting (POF) is widely implemented to minimize the risk of pulmonary aspiration during anesthesia induction. Historically, a prolonged fasting period from midnight before surgery has been standard practice in many healthcare settings, including Northwest General Hospital Peshawar. However, emerging evidence challenges the necessity of extended fasting, emphasizing that shorter fasting durations enhance patient comfort and

metabolic stability without increasing perioperative risks **[5]**. Current guidelines from the European Society of Anaesthesiology (ESA) recommend a fasting period of six hours for solids and two hours for clear fluids before anesthesia **[5]**. Despite these guidelines, our clinical audit identified considerable deviations from the recommended fasting durations, indicating a need for institutional policy updates and enhanced patient education. In our study, 97.7% of patients acknowledged the importance of preoperative fasting, yet only 41.3% could correctly identify its primary rationale. A significant proportion (56%) lacked knowledge regarding its purpose, with many unaware that fasting is primarily intended to prevent aspiration and reduce postoperative nausea and vomiting. This knowledge gap highlights an urgent need for standardized patient education to ensure informed compliance with fasting protocols. Furthermore, inconsistencies were observed in the sources of preoperative fasting instructions, with 47% of patients receiving guidance from anesthesia medical officers, 44% from surgical medical officers, and 9% from nursing staff. The variability in information dissemination underscores the necessity of unified, evidence-based fasting guidelines communicated consistently by all members of the surgical team **[6]**. The duration of fasting among our patient cohort varied significantly from established recommendations. Only 7% of patients fasted for six hours as advised, while the majority exceeded this duration. Specifically, 43% fasted for 9-10 hours, 16% for 11-12 hours, and 8% for more than 12 hours. For clear fluids, only 4% adhered to the recommended two-hour fasting period, whereas 61% fasted for 7-8 hours and 7% exceeded eight hours. Prolonged fasting is associated with adverse physiological effects such as dehydration, hypoglycemia, increased insulin resistance, and heightened stress responses, all of which can negatively impact surgical outcomes **[7]**. The persistence of outdated fasting practices within our institution reflects a gap between policy implementation and current clinical evidence, necessitating an urgent reassessment of fasting protocols. The implications of prolonged fasting extend beyond metabolic disturbances to encompass patient discomfort, increased anxiety, and delayed postoperative recovery. Studies have demonstrated that extended fasting periods exacerbate the body's stress response, impair glucose metabolism, and contribute to patient dissatisfaction **[8]**. Implementing a more patient-centered approach by adhering to updated fasting recommendations has been shown to enhance postoperative recovery by reducing catabolic stress and promoting early mobilization **[9]**. Addressing these issues requires a multifaceted strategy that includes revising institutional policies, training healthcare providers, and enhancing patient education through standardized communication channels. To bridge the gap between current fasting practices and international guidelines, several interventions should be prioritized. First, there is a need for standardized education protocols to ensure that all healthcare providers convey consistent and accurate POF instructions. Second, institutional fasting policies should be updated to align with evidence-based recommendations, advocating for a six-hour fasting period for solids and a two-hour period for clear liquids. Third, patient-centered communication strategies should be implemented to enhance understanding and compliance. Finally, a system for monitoring and evaluating adherence to updated fasting protocols should be established to facilitate continuous quality improvement.

Conclusion:

This audit revealed significant deviations from recommended preoperative fasting guidelines at Northwest General Hospital Peshawar, with most patients fasting longer than necessary. While patients acknowledged its importance, many lacked awareness of its purpose. Inconsistent instructions and outdated practices contributed to prolonged fasting, causing discomfort and potential complications. Aligning institutional policies with international guidelines, improving

patient and provider education, and ensuring compliance can enhance patient safety, comfort, and surgical outcomes.

References:

1. Ian Smith, Peter Kranke, Isabelle Murat, et al. Peri operative fasting in adults and children: guidelines from the European Society of Anaesthesiology. Anaesthesiology. European Journal of 2011;28(8):556–69.
2. Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures An Updated Report by the American Society of Anesthesiologists Task Force on Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Anesthesiology 2017; 126: 376-93.
3. Njoroge G, Kivuti-Bitok L, Kimani S. Preoperative Fasting among Adult Patients for Elective Surgery in a Kenyan Referral Hospital International Scholarly Research Notices 2017;12:2159606.
4. Xu D, Zhu X, Xu Y, Zhang L. Shortened preoperative fasting for prevention of complications associated with laparoscopic cholecystectomy: a meta-analysis. Journal of International Medical Research. 2017;45(1):22 37
5. da Mata AM, do Carmo Tomaz AG, da Cunha GC, Zamberlan P, Bonfim MA. Influence of Shortened Fasting Time on Perioperative Outcomes in Pediatric Patients: A Systematic Review. Journal of Pediatric Surgery. 2024 Jun 29:161607.
6. Fawcett WJ, Thomas M. Pre-operative fasting in adults and children: clinical practice and guidelines. Anaesthesia. 2019 Jan;74(1):83-8.
7. Denkyi L. An exploration of pre-operative fasting practices in adult patients having elective surgery. British Journal of Nursing. 2020 Apr 9;29(7):436-41.
8. Merchant RN, Chima N, Ljungqvist O, Kok JN. Preoperative fasting practices across three anesthesia societies: survey of practitioners. JMIR perioperative medicine. 2020 Jan 28;3(1):e15905.
9. King E. Preoperative fasting durations for adult elective surgical patients: Convenient for the professional, but detrimental to the patient? A narrative review. Journal of Perioperative Practice. 2019 Dec;29(12):393-7.