

## Original article

## Evaluating Patient Satisfaction with Care and Services in the Dialysis Unit of Holy Family Hospital, Rawalpindi: A Clinical Audit

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### Abstract

**Background** Chronic kidney disease (CKD) is a major global health challenge, affecting over 850 million people worldwide. More than 4 million individuals depend on dialysis for survival. In Pakistan, nearly 20 million people are estimated to have CKD, yet only a small proportion receive regular haemodialysis due to limited facilities and financial constraints. Despite the disease burden, few local studies have assessed patient satisfaction with dialysis services.

**Methods:** A descriptive, cross-sectional clinical audit was conducted from November to December 2024. Thirty-four patients undergoing maintenance haemodialysis for at least three months completed a structured questionnaire based on a five-point Likert scale (1 = very dissatisfied, 5 = very satisfied). Data were analysed using SPSS version 25. Descriptive statistics were expressed as mean  $\pm$  standard deviation for continuous variables and frequencies with percentages for categorical variables.

**Results:** The highest satisfaction was reported for staff behaviour (mean =  $4.73 \pm 0.45$ ), cleanliness ( $4.61 \pm 0.49$ ), and nephrologist availability ( $4.59 \pm 0.50$ ). Relatively lower scores were noted for dietary counselling ( $4.28 \pm 0.62$ ) and emotional support ( $3.91 \pm 0.71$ ). Overall, 70.6% of patients were very satisfied, 26.5% were satisfied, and 2.9% were neutral. None were dissatisfied.

**Conclusion:** Patients demonstrated high satisfaction with most aspects of care, particularly staff conduct and cleanliness. Areas requiring improvement include emotional support and dietary counselling. Regular patient feedback and periodic audits are recommended to ensure continuous quality improvement and enhance patient-centred dialysis care.

**Keywords:** Satisfaction, Dialysis, Audit, Kidney

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### Introduction

End-stage renal disease (ESRD) is a growing global health concern, affecting more than 850 million people worldwide<sup>1</sup>. It is now among the top ten causes of death according to the Global Burden of Disease study<sup>2</sup>. For many of these patients, dialysis is not only life-saving but also a long-term therapy that requires frequent interactions with healthcare systems. Globally, over 4 million people rely on dialysis, and this number is steadily increasing<sup>3</sup>.

In Pakistan, chronic kidney disease (CKD) is thought to affect nearly 20 million people<sup>4</sup>. Unfortunately, only a fraction of those in need receive maintenance haemodialysis because of limited facilities, financial barriers, and unequal distribution of services<sup>5</sup>. Most dialysis units are concentrated in large urban centres, leaving patients in rural or resource-poor settings with fewer options.

Patient satisfaction has become an important marker of healthcare quality<sup>6</sup>. Beyond being a measure of service delivery, it directly influences adherence to treatment and overall health outcomes<sup>7</sup>. International studies consistently highlight the importance of staff behaviour, communication, hygiene, and emotional support in shaping patient experiences. For example, Chow et al.<sup>8</sup> in Hong Kong reported high satisfaction

with staff interaction but noted gaps in emotional support, while Almutairi et al.<sup>9</sup> in Saudi Arabia found that technical care was strong but patient education and psychosocial support were lacking. Similar findings have been observed across Europe and other regions.

Closer to home, studies from Lahore and Karachi reveal moderate levels of patient satisfaction, with frequent concerns about overcrowding, limited staff, and inadequate dietary counseling<sup>10</sup>. More recent work from Pakistan (Iqbal et al.<sup>11</sup>; Shouket et al.<sup>12</sup>) reinforces these challenges, showing that while patients often value the dedication of staff, they continue to experience unmet needs in psychosocial and nutritional support.

Despite the rising number of dialysis patients in Pakistan, very few systematic evaluations of patient satisfaction have been published, particularly from public sector hospitals. This gap makes it difficult for health systems to identify strengths and weaknesses in service delivery. Regular patient feedback is crucial to ensure care remains patient-centred, especially in resource-limited environments.

The present audit was therefore carried out to assess patient satisfaction in the Dialysis Unit of Holy Family Hospital, Rawalpindi. By highlighting both positive aspects of care and areas requiring improvement, this study aims to support continuous quality enhancement

and contribute to the development of more holistic, patient-centred dialysis services in Pakistan.

### Materials & Methods

This cross-sectional clinical audit was conducted in the Dialysis Unit of the Department of Nephrology, Holy Family Hospital, Rawalpindi, during November and December 2024. A total of 34 patients undergoing maintenance haemodialysis were enrolled. Eligible participants were adults ( $\geq 18$  years) who had been receiving maintenance haemodialysis for at least three months and were able to provide informed consent. Patients were excluded if they were new to dialysis with less than three months of treatment experience, were undergoing emergency or acute dialysis, were unable to communicate due to cognitive impairment or severe illness, or declined participation.

Data were collected using a structured questionnaire adapted from validated instruments in dialysis satisfaction research. The tool included two sections: demographic information (age, gender, duration and frequency of dialysis) and 12 satisfaction items covering domains such as staff behaviour, communication, nephrologist availability, cleanliness, comfort of facilities, dietary counselling, emotional support, and overall care experience. Each item was rated on a five-point Likert scale (1 = very dissatisfied to 5 = very satisfied). The questionnaire was pre-tested for clarity, and internal consistency was confirmed with a Cronbach's alpha above 0.80.

Statistical analysis was performed using SPSS version 25. Descriptive statistics (means  $\pm$  standard deviations for continuous variables, frequencies and percentages for categorical variables) were used to summarize the findings. Independent-sample t-tests and one-way ANOVA were applied to compare mean satisfaction scores across demographic groups, while chi-square tests were used to explore associations between categorical variables. A p-value of  $<0.05$  was considered statistically significant.

### Results

A total of 34 patients participated in the audit, with an equal distribution of males ( $n = 17$ , 50%) and females ( $n = 17$ , 50%). The mean age was  $48.3 \pm 12.5$  years (range: 26–72 years). Regarding dialysis duration, 18 patients (53%) had been receiving dialysis for more than one year, while 16 patients (47%) had been on treatment for three months to one year. In terms of frequency, 30

patients (88%) were on twice-weekly dialysis, whereas 4 patients (12%) were receiving thrice-weekly sessions. The mean duration on dialysis was  $14.6 \pm 6.2$  months.

Mean satisfaction scores across different domains are shown below. Staff behaviour received the highest approval ( $4.73 \pm 0.45$ ), with 29 patients (85.3%) rating it as "very satisfied." Cleanliness of the unit scored  $4.61 \pm 0.49$ , with 27 patients (79.4%) reporting "very satisfied." Nephrologist availability was also highly rated, with a mean score of  $4.59 \pm 0.50$  and 26 patients (76.5%) "very satisfied." Dietary counselling had a lower mean score of  $4.28 \pm 0.62$ , with 19 patients (55.9%) "very satisfied," while emotional support scored the lowest at  $3.91 \pm 0.71$ , with only 14 patients (41.2%) "very satisfied."

Overall satisfaction was high, with a mean total score of  $4.42 \pm 0.37$ . Twenty-four patients (70.6%) reported being *very satisfied*, nine (26.5%) were *satisfied*, and one patient (2.9%) was neutral. No participant rated their experience as dissatisfied or very dissatisfied.

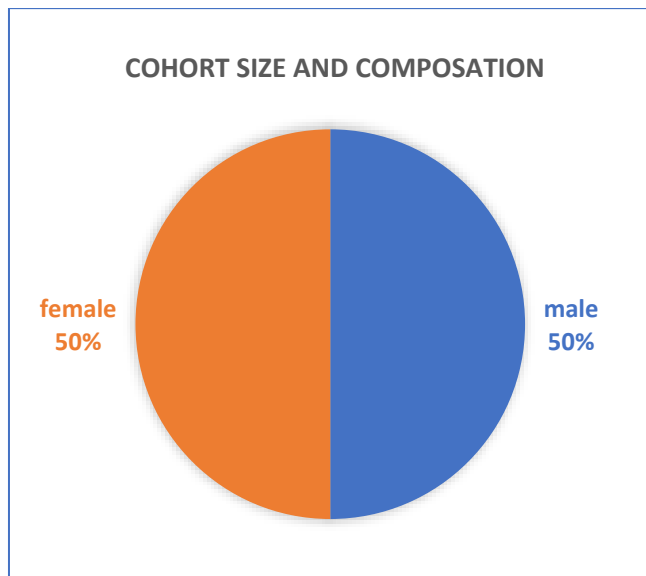
When demographic variables were compared, no statistically significant differences were observed in overall satisfaction between males and females ( $p > 0.05$ ) or between patients on dialysis for less than one year versus those with longer dialysis duration ( $p > 0.05$ ). Patients receiving thrice-weekly dialysis tended to have higher mean scores for staff interaction ( $4.83 \pm 0.29$  vs.  $4.70 \pm 0.46$ ) and nephrologist availability ( $4.75 \pm 0.50$  vs.  $4.57 \pm 0.49$ ), although these differences did not reach statistical significance.

**Table 1 Demographic profile of patient**

Variable	Number (%) or Mean $\pm$ SD
Total Patients	34
Gender	17 Male (50%) 17 Female (50%)
Mean Age	$48.3 \pm 12.5$ years
Duration of Dialysis	53% $>1$ year, 26% $<6$ months
Sessions per Week	88% had 2/week, 12% had 3/week

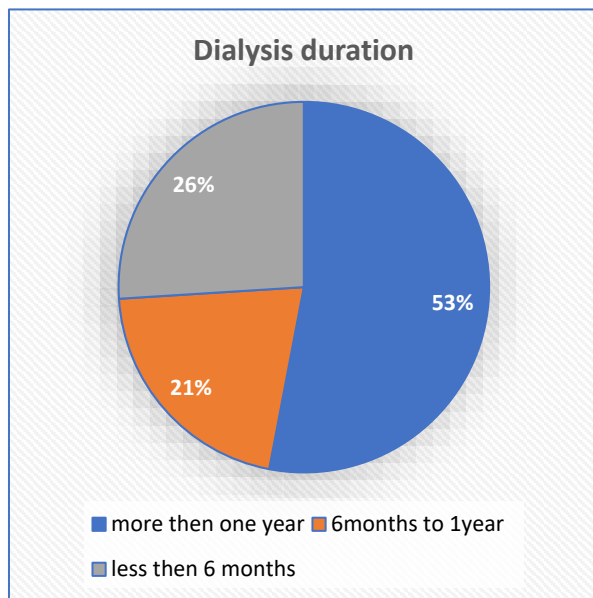
### Cohort Size & Composition;

We studied 34 dialysis patients, evenly split by gender (17 males, 17 females). The mean age was 48.3 years (SD 12.5). This middle-aged demographic is similar to other dialysis cohorts.



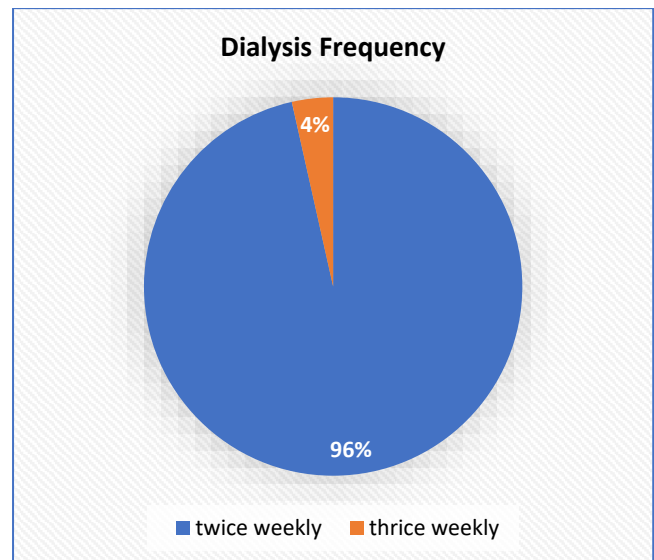
**Fig.1 Distribution of participants according to Cohort Composition**

**Dialysis Duration:** Over half of patients (53%) had been on dialysis for more than one year, while 26% had started within the past 6 months. This suggests a stable patient population with substantial long-term treatment. (The remaining 21% presumably had 6–12 months on dialysis.)



**Categorical Distribution of Dialysis Duration**

**Dialysis Frequency:** The majority (88%) of patients attended twice-weekly dialysis sessions; only 12% attended thrice-weekly.



**Fig.3 Comparison of Dialysis Frequency Among Patients**

**Satisfaction scores across domains**

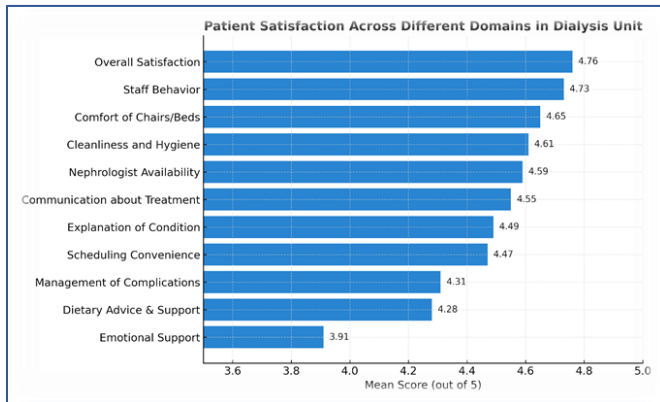
Patient satisfaction was high across most domains. Strongest ratings were reported for staff behaviour (4.73), cleanliness (4.61), and nephrologist availability (4.59). Emotional support (3.91) and dietary guidance (4.28) were relatively lower, identifying areas needing improvement.

**Table 1. An Overview of Patient Satisfaction Across Different Domains on a 5-Point Scale**

Domain	Mean ± SD	Interpretation
Staff behaviour and cooperation	4.73 ± 0.45	Very Satisfied
Cleanliness and hygiene	4.61 ± 0.49	Very Satisfied
Availability of a nephrologist	4.59 ± 0.50	Very Satisfied
Technical quality of dialysis	4.48 ± 0.57	Satisfied
Comfort and physical environment	4.41 ± 0.53	Satisfied
Dietary counselling	4.28 ± 0.62	Satisfied
Emotional and psychological support	3.91 ± 0.71	Moderately Satisfied

Overall, 24 patients (70.6%) were very satisfied, 9 (26.5%) were satisfied, and 1 (2.9%) remained neutral. None of the participants reported dissatisfaction with the dialysis services. When asked about suggestions for improvement, the most common responses included a need for more individualized dietary guidance (44.1%) and better emotional or psychological support (38.2%). Only a small number (8.8%) mentioned issues related to waiting times or equipment availability.

2. Overall, the satisfaction levels reported by patients were remarkably high. A significant majority, approximately 70.6%, indicated that they were "Very Satisfied" with the care and services provided at the dialysis unit, while 26.5% expressed being "Satisfied." Only one respondent (2.9%) reported a neutral stance, and notably, no patients indicated dissatisfaction with any aspect of their care. These findings highlight a generally positive patient perception across the dialysis experience.



**Fig.4 Distribution of patient satisfaction scores across different domains in the dialysis unit.**

## Discussion

The results of this clinical audit demonstrate a generally high level of patient satisfaction among individuals receiving maintenance haemodialysis at Holy Family Hospital, Rawalpindi. Most patients rated staff behaviour, cleanliness, and nephrologist availability as highly satisfactory, reflecting a well-organized and empathetic service environment. However, areas such as emotional support and dietary counselling received relatively lower scores, indicating opportunities for improvement in the holistic care of patients. Our findings are consistent with studies conducted in other regions of Pakistan and abroad. Iqbal et al.<sup>1</sup> in Karachi and Shouket et al.<sup>2</sup> in Lahore also reported that while patients were pleased with staff conduct and technical care, they were less satisfied with counselling and psychological support. Similarly, a study by Almutairi et al.<sup>3</sup> in Saudi Arabia revealed that patients rated staff competence and interaction highly but emphasized the need for better education and emotional engagement. International evidence supports that effective communication and compassionate care significantly influence patient satisfaction and adherence to treatment regimens.<sup>4</sup> Surgical intervention in comprehensive CRS management<sup>10</sup>. Emotional and psychosocial support are

often overlooked aspects of dialysis care. Prolonged treatment dependency, dietary restrictions, and socioeconomic stressors contribute to mental fatigue and anxiety among patients. Addressing these issues through periodic counselling sessions, peer support groups, and staff training in communication can substantially improve patient well-being and satisfaction. The high satisfaction with staff behaviour and cleanliness in our audit may reflect dedicated teamwork, infection control compliance, and the supportive environment maintained by the Dialysis Centre. This aligns with findings from Qureshi et al.<sup>5</sup> who emphasized that cleanliness and staff responsiveness are strong predictors of positive patient experience in public-sector hospitals. Despite the overall positive feedback, gaps in dietary counselling and emotional support underscore the need for multidisciplinary involvement. Regular visits by dietitians and mental health professionals, along with routine patient feedback sessions, could enhance service delivery and promote patient-centred care.

## Conclusion

This clinical audit revealed a high overall level of patient satisfaction among individuals receiving haemodialysis at Holy Family Hospital, Rawalpindi. Patients expressed strong satisfaction with staff behaviour, cleanliness, and physician availability, reflecting a caring and well-managed dialysis service. However, relatively lower satisfaction was noted regarding emotional support and dietary counselling, suggesting the need for a more holistic approach to patient care. Regular evaluation of patient satisfaction should remain an integral part of quality improvement processes in dialysis units. By actively incorporating patient feedback, healthcare providers can enhance trust, communication, and adherence to long-term treatment.

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