



FACTORS AFFECTING PATIENT SATISFACTION ON DIETARY SERVICES IN THE INFIRMARY GOVERNMENT HOSPITAL AT PRESIDENT ROXAS, COTABATO: A BASIS FOR POLICY PLAN

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ABSTRACT :

This research aimed to determine the factors affecting patient satisfaction towards the dietary services in the infirmary government hospital at President Roxas, Cotabato, pinpoint areas requiring improvement, and offer data-driven suggestions for policy development. A quantitative, correlational, hospital-based study encompassed data collection from 250 inpatients through a modified hospital-based survey, which took place between March and April 2025. Most of the participants were in the age group of 18-24 (17.2%), female (62%), Seventh Day Adventist Christians (29.6%), and belonged to the Ilonggo (36%) ethnic group. Most of the participants reached the high school level of education (22.8%) and earned less than Php 9,520 per month (39.6%). The bulk of the participants had a short hospital stay of 1-3 days (47.6%) and were admitted to the Medicine department (66.8%). The highest mean score of patient satisfaction was the dietary staff service dimension (3.56), followed by the dietary facilities, utensils, and equipment (3.37) and the food quality (3.02). The highest and the lowest mean scores of patient satisfaction were the neatness and cleanliness of the food server and the dimension of the food variety which is 4.58 and 2.36, respectively. The patient-specific demographic characteristics, such as religion, ethnicity, educational background, and length of hospital stay, showed significant association with all the factors. The analysis showed that while patients were largely satisfied with dietary services, there were specific areas, such as food variety, where improvements could be made. Forty-three, or 17.2%, of the patients responded with feedback, and the majority (40%) of it requested halal foods and a separate non-pork, non-seafood kitchen. The findings would increase the satisfaction of patients, especially those with strict religious dietary practices. This would also serve as a benchmarking of the hospital to other hospitals and would facilitate the monitoring for the sustainability and consistency of high-quality food services in the hospital.

(Keywords: Patient Satisfaction, Hospital Dietary Services, Hospital Food Quality, Dietary Staff Service, Policy Plan, Dietary Facility).

Background

One of the key indicators used to evaluate the quality of medical services is patient satisfaction, which reflects a patient's response to various aspects of their service experience (Alhussin et al., 2024). Healthcare providers can better focus on user preferences and create tailored health services that meet their needs and expectations by measuring healthcare quality and satisfaction (Minvielle et al., 2014). In hospitals, patients' satisfaction with dietary services is viewed as a key factor in assessing the quality of food services (Arora et al., 2022), shaped by various elements such as meal service delivery, staff interactions, and the surrounding environment (Gregoire et al., 1994). The issue of food quality in hospitals is a global concern, highlighting the necessity for ongoing assessments of food services in healthcare settings (Kim et al., 2010). Although numerous research studies have explored satisfaction levels in healthcare facilities and other service providers, a thorough literature review reveals a scarcity of studies explicitly addressing satisfaction with food services in healthcare environments (Hoteit et al., 2023) so as in the Philippines (Rosario et al., 2019).

Methods

This study is a quantitative, correlational, hospital-based design based on a survey of patient satisfaction with the dietary services in the infirmary government hospital in President Roxas, Cotabato. Through purposive sampling there were 250 participants responded on the modified survey questionnaire which was conducted between March and April 2025. The data was analyzed using a descriptive statistics and correlational analysis utilizing the SPSS for Windows, version 10.0.

Results

Most of the participants were in the age group of 18-24 (17.2%), female (62%), Seventh Day Adventist Christians (29.6%), and belonged to the Ilonggo (36%) ethnic group. Most of the participants reached the high school level of education (22.8%) and earned less than Php 9,520 per month (39.6%). The bulk of the participants had a short hospital stay of 1-3 days (47.6%) and were admitted to the Medicine department (66.8%). The highest mean

score of patient satisfaction was the dietary staff service dimension (3.56), followed by the dietary facilities, utensils, and equipment (3.37) and the food quality (3.02). The highest and the lowest mean scores of patient satisfaction were the neatness and cleanliness of the food server and the dimension of the food variety which is 4.58 and 2.36, respectively. The patient-specific demographic characteristics, such as religion, ethnicity, educational background, and length of hospital stay, showed significant association with all the factors. The analysis showed that while patients were largely satisfied with dietary services, there were specific areas, such as food variety, where improvements could be made. Forty-three, or 17.2%, of the patients responded with feedback, and the majority (40%) of it requested halal foods and a separate non-pork, non-seafood kitchen.

Conclusion and Recommendation

The results of this study revealed a moderate to satisfied level of patient satisfaction with the dietary service which indicates a positive outlook and perspective on it. Their demographics significantly correlates their satisfaction such that religion, ethnicity, educational background, income and length of hospital stay to the three factors for evaluation- food quality, dietary staff service and dietary facility, utensils, equipment. The food variety showed a dissatisfaction level which could be linked to the demand of most of the participants of a religious-based food preference as reflected on their responses from the survey. It is highly recommended that a multi-phased study design may be utilized in further studies which include phases of qualitative, quantitative, training program, and evaluation so that new information emerges which could fully address all aspects of concern of the dietary services of a particular healthcare institution.

INTRODUCTION

Evaluating patient satisfaction can provide essential and unique insights into the quality of everyday hospital care (Zaid et al., 2020), as it is becoming increasingly crucial as an outcome measure for healthcare services (Williams et al., 2011). Therefore, improving patient satisfaction is vital to keep up with the changing and progressing healthcare systems (Ferreira et al., 2018). Inpatient satisfaction and core healthcare offerings recognized hospital food services as vital elements in patient care (Wilandh et al., 2024). Based on studies focusing on the quality of nursing, medical and technical care, dietary services, staff responsiveness, and facility cleanliness, these factors influence patients' satisfaction in hospitals (Teka et al., 2022). Controlling food and meal services is essential for hospitals, as the quality and efficiency of food service significantly impact patients' care, recovery, and overall well-being, helping to minimize infection risks and improve the patient experience (Fernando, et al., 2017). Research has repeatedly demonstrated that the standard of meals offered by hospitals plays a vital role in patients' overall satisfaction, especially when these meals are customized to meet dietary needs and cultural and religious preferences (Panganiban et al., 2024), which more of the hospitals in the Philippines fail to offer (Ng, 2024).

Although numerous research studies have explored satisfaction levels in healthcare facilities and other service providers, a thorough literature review reveals a scarcity of studies explicitly addressing satisfaction with food services in healthcare environments (Hoteit et al., 2023). In the Philippines, despite several studies on patient satisfaction with healthcare services, there is a deficiency of research explicitly examining satisfaction with food services in healthcare institutions and a limited understanding of the factors affecting patient satisfaction regarding the quality, quantity, and suitability of the meals, dietary staff responsiveness, dietary facility, and utensils that hamper the hospital's efforts to enhance its services and elevate the standard of patient care (Rosario et al., 2019).

This study aimed to identify the factors influencing patient satisfaction with dietary services in the infirmary hospital at President Roxas, Cotabato, to highlight areas that need enhancement and provide evidence-based policy and program development recommendations.

METHODS

Research Design

This research utilized a quantitative, correlational, hospital-based design encompassing data collection from patients in the infirmary government hospital at President Roxas, Cotabati. This hospital-based survey was scheduled between March and April 2025.

Study Participants

A purposive sample of the participants represents the inpatients of the hospital. There were 250 participants which was included in the study based on the inclusion criteria, which were as follows: (1) 18 years old or above and current inpatients in the infirmary government hospital; (2) no special dietary requirements (parenteral, enteral nutrition, diabetic diet, low-salt, low-fat, low-purine diet, and others); and (3) willing to participate. Exclusion criteria included the following: (1) patients under the age of 18; (2) those with significant physical, cognitive, or emotional difficulties; and (3) those unwilling to participate.

Data collection procedures

The methodology employed for this research involved the collection of quantitative data from 250 inpatients from March to April 2025 at the infirmary government hospital at President Roxas, Cotabato. The research acquired ethical approval from the Ethics Review Board Committee of Saint Bernadette of Lourdes College, followed by sending a letter of intent to the Chief of Hospital of the said institution. Once approved by the Chief of Hospital, the researcher screened the inpatients who qualified based on the inclusion criteria and then handed in the individual informed consent before

answering the survey questionnaire. The researcher distributed the survey questionnaire to the inpatients about to be discharged on that day and retrieved it after an hour or two on that same day. The collection of survey questionnaires was done daily until the desired sample size was achieved.

Tool development and measure

A survey questionnaire was used to determine patient perceptions of the food quality, dietary service staff, and dietary facility, utensils, and equipment. The researcher modified the survey questionnaire based on the Acute Care Hospital Foodservice Patient Satisfaction Questionnaire (ACHFPSQ) (Capra et al., 2005).

The modified survey questionnaire has five parts, which include the following: (1) the socio-demographic profile of the patients; (2) food quality factors; (3) dietary service staff factors; (4) dietary facility, utensil, and equipment factors; and (5) open-ended questions. There were 14 questions; 5 questions dealt with food quality, 5 questions dealt with dietary staff services, and 4 questions related to dietary facility, utensils, and equipment. Patients were asked to show their level of satisfaction by selecting a response on a 5-point Likert scale, which was as follows: 5 = Very satisfied, 4 = Satisfied, 3 = Moderate, 2 = Dissatisfied, and 1 = Very Dissatisfied. The scale of 5 being the highest and 1 being the lowest. A mean score of <2.50 was considered as dissatisfied, a score of ≥ 2.50 to ≤ 3.50 was moderate, and a score of > 3.50 was satisfied.

The survey questionnaire was validated by three (3) experts with corresponding suggestions and recommendations carried out. The validated instrument underwent pilot testing prior to the distribution to the participants to test its reliability and validity. In this context, Cronbach's α (alpha) value of 0.98 signified an exceptionally high degree of uniformity and dependability in the measurement of the intended concept, indicating that the scale is a highly reliable instrument for assessing the desired construct.

Statistical analyses

The analysis of demographic characteristics and factors affecting patient satisfaction with dietary services involved utilizing descriptive statistics and frequency distributions. Additionally, correlation analysis was employed to gain insight into relationships to determine the significance of variables, thereby revealing connections between demographic profiles and factors affecting patient satisfaction with the dietary services.

The analysis was conducted with the Statistical Package for Social Science (SPSS for Windows, version 10.0).

RESULTS AND DISCUSSION

Socio-Demographic Profile of the Participants

Table 1 presents the socio-demographic profile of inpatients in the infirmary government hospital at President Roxas, Cotabato, based on a sample of 250 individuals.

The age group of 18-24 years has the highest representation at 17.2% (43), followed by the 39-45 age group, comprising 16.8% (42). The older age groups (60-66 and 67+) each account for 8% of the sample, indicating fewer older patients than younger adults. This result was consistent with the studies of Sahin et al. (2006) and Nasirin et al. (2024) but contradictory to the results of Thakur et al. (2024) in India, Aminuddin et al. (2024), and Abdelhafez et al. (2012). The participants' gender was notably female, accounting for 62.0% (155), while male inpatients represented 34.0% (85). A small percentage (4%) preferred not to disclose their gender. This result was aligned with the studies of Teka et al. (2022), Busra et al. (2017), and Abdelhafez et al. (2012). These studies showed no significant association between gender and patients' satisfaction with the hospital's dietary service. This result contradicted Thakur's report. (2024), females were better satisfied with hospital food services. Regarding religion, the most represented religious group was Seventh Day Adventist at 29.6% (74), followed by Catholics at 23.2% (58). Other religions such as Baptist (15.2%), ECOFI (10.4%), and Islam (10%) also have notable representation, while smaller groups include Four Square (5.6%), Church of Christ (2.8%), and Iglesia ni Cristo (1.2%). The Ilonggo ethnic group is the most prevalent at 36% (90), followed by Manobo at 21.2% (53 individuals). Other ethnicities like Cebuano (17.6%), Ilocano (12.8%), and Maranao (16%) have lower representation, with Maguindanaon and Tagalog being the least common at 3.6 % and 2.4%, respectively. The religion and ethnicity of the patients attitudes toward hospital food influence their food intake; therefore, it can be enhanced by catering to cultural and individual food preferences (Alpers, 2019). The High School Level category has the highest percentage, 22.8% (57), while only 5.2% (13) were college graduates. A significant portion of the inpatients have not completed formal education, with 15.6% having No Grade Completed. Middle school students were also the majority of the participants in the study of Sahin et al. (2005), which was otherwise seen in other studies like Trinca et al. (2022) and Busra et al. (2017). The participants' income showed a substantial number of patients having no income (31.6%) or earning less than Php 9,520 (39.6%), indicating financial challenges among the inpatients. Higher-income brackets show no representation, suggesting that few patients earn above Php 19,041. The emphasis on higher hospital food satisfaction among inpatients with a lower monthly income was reflected in a study by Nasirin et al. (2024), as these patients were more likely to be easily satisfied and contented. A significant proportion of patients (47.6%) have a short hospital stay of 1–3 days. 33.6% stayed 4–7 days, while only 18.8% stayed longer than a week. The length of hospital stay does not correlate with patient satisfaction with dietary services, based on Thakur et al. (2024), which in another study was reported to have a negative influence (Sahin et al., 2006; Stanga et al., 2003). The deviation in these results could be due to the difference in the study population (Timalsina et al. 2024). The Medicine department has the highest number of types of admissions, with 66.8% (167), indicating that most inpatients have medical needs. Other departments, such as Pediatrics (18%) and Obstetrics and Gynecology (11.6%), have lower patient counts, with Surgery accounting for the smallest group at 3.6%. This finding was consistent with other studies, such as those of Nasirin et al. (2024), Shirin et al. (2022), and Sahin et al. (2006).

Table 1. Frequency distribution of the socio-demographic profile of the inpatients in the infirmary government hospital at President Roxas, Cotabato. (n=250)

Profile	Variables	Frequency (n = 250)	Percentage (%)
Age	18–24	43	17.2
	25–31	31	12.4
	32–38	35	14.0
	39–45	42	16.8
	46–52	34	13.6
	53–59	25	10.0
	60–66	20	8.0
	67+	20	8.0
Gender	Female	155	62.0
	Male	85	34.0
	Prefer not to say	10	4.0
Religion	Baptist	38	15.2
	Catholic	58	23.2
	Church of Christ	7	2.8
	ECOFI	26	10.4
	Four Square	19	7.6
	Iglesia ni Cristo	3	1.2
	Islam	25	10.0
	Seventh Day Adventist	74	29.6
Ethnicity	Cebuano	44	17.6
	Ilocano	32	12.8
	Ilonggo	90	36
	Manobo	53	21.2
	Maranao	16	6.4
	Maguindanaon	9	3.6
	Tagalog	6	2.4
Educational background	No Grade Completed	39	15.6
	Primary Level	31	12.4
	Primary Level Graduate	14	5.6
	High School Level	57	22.8
	High School Graduate	33	13.2
	Vocational	31	12.4
	College Level	18	7.2
	College Graduate	13	5.2
Income (Php)	Post-graduate	14	5.6
	No income	79	31.6
	Less than 9,520	99	39.6
	9,521–19,040	44	17.6
	19,041–38,080	16	6.4
	38,081–66,640	12	4.8
	66,641–114,240	0	0
	114,241–190,400	0	0
Length of Stay (in days)	Above 190,401	0	0
	1-3	119	47.6
	4-7	84	33.6
Department admission	>7	47	18.8
	Pediatrics	45	18
	Medicine	167	66.8
	Obstetrics and Gynecology	29	11.6
	Surgery	9	3.6

Mean Scores of Factors Affecting Patient Satisfaction with the Dietary Service

Table 2 presents the mean scores for factors affecting patient satisfaction with dietary services in the infirmary government hospital at President Roxas, Cotabato. The mean scores and associated satisfaction scales provide insight into patients' perceptions of food quality, dietary service staff, and dietary facilities, utensils, and equipment.

The food quality factor was categorized into five dimensions: taste and flavor, freshness and warmness, variety, meal distribution time, and amount of food. The patients have an overall moderate satisfaction level of 3.02. This indicated that the quality of the food was not completely perceived positively. Moderate mean scores for taste and flavor of the food (3.44), freshness and warmness of the food (3.27), meal distribution time (3.37), and amount of food served (2.66) suggested that they have neutral satisfaction with these dimensions, which may or may not please them; hence, they still needed further improvement. In a study in Malaysia, the meal distribution time garnered the highest patient satisfaction, while other food dimensions,

such as taste, portion size, appearance, and smell, which were collectively called "food attributes", had the lowest satisfaction score (Nasirin et al., 2024). Another study with a higher percentage of patient satisfaction was with food quantity, timing, temperature of food, and presentation, as mentioned by Timalsina et al. (2024).

The mean score for the variety of food dimension (2.36) indicated a dissatisfied level of satisfaction. This suggested that patients felt there was a lack of variety in the meals provided, which could be an area for improvement in enhancing patient satisfaction. This finding was in contrast with the findings of Miyoba (2024) in Zambia, in which he mentioned the consideration of the different religions and ethnic groups in serving their food. In addition, the lack of variety can negatively impact appetite, nutritional intake, and overall patient morale (Osman et al., 2021). This aligns with studies demonstrating a strong correlation between diverse meal options and improved patient satisfaction and well-being (Potsi et al., 2025). According to O'Hara et al. (1997), a monotonous diet can lead to decreased appetite, nutritional deficiencies, and a decline in overall well-being, potentially impacting recovery time and overall health outcomes. Lai et al. (2021) emphasized how consistent food quality is the main predictor of overall satisfaction with food services.

The dietary staff services factor was categorized into the accessibility of staff, attitude, addressing the concern, timeliness of responses, and neatness and cleanliness of the food server, with a satisfied (3.56) overall mean score. When the patient viewed the accessibility of the dietary staff as easy and approachable, a satisfied mean score was expected (Osman et al., 2022). This factor was shown in the result with a mean score of 3.71, which indicates a high score. It explained that patients found it simple to contact dietary staff, suggesting effective communication channels and availability (Nasirin et al., 2024). The dietary staff was not just a meal server but made themselves easy to contact or approach to enhance the overall patient experience during their stay (Busra et al., 2017; Sahin et al., 2006). Moreover, patients experienced the attitude of the staff as helpful and courteous, showing a much higher mean score of 3.86. The outcome was expressed as a positive patient experience and could significantly enhance overall satisfaction. This was consistent with the study of Stanga et al. (2003), which emphasized the impact of dietary staff attitude on patient satisfaction. If the food server perceives the patient as being respected, compliance and engagement with the treatment and care are also elevated (Trinca et al., 2022). The mean score in addressing concerns reflected a moderate (2.84) level of satisfaction, indicating that while concerns were addressed, there may be room for improvement in the effectiveness of responses. Nathani et al. (2008) found that 54% of the patients were satisfied with how dietary staff addressed complaints such as delayed distribution of meals and noisy food trolleys. However, the timeliness of responses was rated as moderately satisfactory, which was also the result of this study. The mean score for the timeliness of responses (2.80) indicated that patients feel responses to requests could be quicker, suggesting a need for improvement in this area. According to Thakur et al. (2022), the timeliness of responses by the dietary staff, particularly the food servers, is vital in elevating the patient experience in the hospital. The neatness and cleanliness of the food server (4.58) gained a very high mean score, indicating that patients were delighted, which reflects positively on hygiene practices. The result implied that the staff likely maintained high standards of hygiene and appearance, which is vital in a healthcare setting. This finding was consistent with the studies of Nasirin et al. (2024), Thakur et al. (2022), Trinca et al. (2022), and Sahin et al. (2006).

The dietary facility, utensils, and equipment factors were categorized into cleanliness of food trolley, mess hall maintenance, sanitation of food containers, and clean utensils and covers. The mean scores for the cleanliness of the food trolley (3.56) and the utensils and food covers (3.51) resulted in a satisfied patient satisfaction rating that implied good hygiene practices in serving food. Timalsina et al. (2024) mentioned that bulk trolleys were used in the hospital to ensure the food was kept warm. Plates remained hygienic, and 99.8% patient satisfaction was achieved regarding hygienic dietary equipment and utensils. The practice of hygienic dietary kitchen and hospital cafeteria has a paramount influence on the appetite of the patient, which in turn increases patient satisfaction, as mentioned by Aminuddin et al. (2018), Naithani et al. (2008), and Sahin et al. (2006). A mean score of 3.30 and 3.13 for mess hall maintenance and sanitation of food containers indicated that patients might find these areas not so satisfying. These could have contributed to a moderate (3.37) overall patient satisfaction with this factor. It implied a need for further improvement in these areas to achieve a much better patient experience. According to Trinca and her colleagues (2022), the cleanliness of the food containers affects patient satisfaction with hospital food despite the excellent taste and flavor. Therefore, good sanitation of the hospital food containers should not be taken for granted. The hospital cafeteria's physical aspect influences the patients' dining experience (Naithani et al., 2008), so their satisfaction is not only with the food quality but also with the smell, ambiance, and silence.

Table 2. Mean scores of factors affecting patient satisfaction with the dietary service in the infirmary government hospital at President Roxas, Cotabato.

Factors	Dimensions	Category	Mean Score	Satisfaction Scale
FOOD QUALITY	The food tastes delicious and flavorful.	Taste and flavor	3.44	Satisfied
	The food is fresh and served at the right temperature.	Freshness and Warmness	3.27	Moderate
	There is a variety of food served in every meal.	Variety	2.36	Dissatisfied
	The meals are served or distributed on time.	Meal distribution time	3.37	Moderate
	There is enough food to consume in every meal.	Amount	2.66	Moderate
Overall Mean Satisfaction			3.02	Moderate

DIETARY STAFF SERVICE	It is easy to contact the dietary staff.	Accessibility	3.71	Satisfied
	The dietary service staff are helpful and courteous.	Attitude	3.86	Satisfied
	Concerns or complaints are addressed effectively by the staff.	Addressing concern	2.84	Moderate
	Requests are responded to in a timely manner.	Timeliness of response	2.80	Moderate
	The food server is neat and clean while serving meals.	Neatness & cleanliness	4.58	Satisfied
Overall Mean Satisfaction			3.56	Satisfied
DIETARY FACILITY, UTENSILS AND EQUIPMENT	The food trolley is kept clean and free from dirt.	Cleanliness of food trolley	3.56	Satisfied
	The mess hall for the patients/watchers is well-maintained and cleaned.	Mess hall maintenance	3.30	Moderate
	The food containers are properly cleaned and sanitized.	Sanitation of food containers	3.13	Moderate
	The food served is properly covered with clean utensils or materials.	Cleanliness of utensils & food covers	3.51	Satisfied
Overall Mean Satisfaction			3.37	Moderate

Legend: <2.50: dissatisfied, ≥2.50 to ≤3.50: moderate, and >3.50: satisfied

Test of Association Between Socio-Demographic Profile and Food Quality, Dietary Staff Service, and Dietary Facility, Utensils, and Equipment Evaluation of the Patients

As seen in Table 3, the summary of the analysis of the association between various socio-demographic profiles and three key evaluation factors—food quality, dietary staff service, and dietary facilities, utensils, and equipment—is outlined.

Age does not significantly influence evaluations of food quality or dietary facilities. However, it significantly impacts dietary staff service evaluation, indicating that perceptions of staff service quality may vary notably among different age groups. As elaborated in the study of Sahin et al. (2006) in Turkey, age does not correlate with patient satisfaction with food quality, specifically with the food's freshness, taste, and flavor. However, based on the study in Indonesia, the food's temperature influences its taste according to older inpatients. According to Thakur et al. (2022) in India, age negatively affects food quality, especially the taste and flavor. In another study in Malaysia, the older patients (51%) were satisfied because of the reduced sensitivity towards different flavors (Aminuddin et al., 2018). Gender significantly affects food quality and dietary facility evaluation, suggesting that male and female patients may have differing perceptions. However, the association with dietary staff service is not significant. There was a consistent result from the study in Malaysia (Aminuddin et al., 2018) and Indonesia (Rachmawati et al. 2021) that gender has a significant relationship to patient satisfaction with the meal's taste, freshness, quantity, and timeliness. Weraman et al. (2023) mentioned that female patients (52%) were more meticulous about the cleanliness of the dietary facilities and equipment. Religion and ethnicity are highly associated with all three evaluation areas, indicating that patients' religious beliefs strongly influence their perceptions of food quality, dietary staff service, and facilities. Rahman et al. (2023) mentioned that respect for the patient's religious beliefs regarding their food preference contributes to elevated patient experience, hence, the patient compliance to medical advice. Further, in a study in India by Khan et al. (2023), halal foods among Muslim clients (62%) show respect for their religion and a greater benefit in terms of hygiene and cleanliness. Educational background is highly associated with food quality and dietary staff service and facilities, indicating that a patient's level of education may influence their evaluations in all three areas. Based on a study by Aminuddin et al. (2018), food plate wastage was high as food satisfaction was low among the highly educated participants because they tend to be more knowledgeable, have higher expectations, and are not easily satisfied, which is inconsistent with other studies. Although the findings showed no association of income to patient satisfaction with dietary service, Weraman et al. (2023) stated that patients with lower educational attainment (54%) and those with lower to no income (48%) were not particular about hospital food quality as long as there was something to consume. This conclusion suggests that financial status may not be critical in shaping patients' perceptions of food quality or services. Also, Nasirin et al. (2024) pointed out that those patients with lower income were easily satisfied with the food quality and the cleanliness of the eating utensils because they only relied on hospital food, as they had no other options due to financial constraints. Length of stay is highly associated with all three evaluation factors. This evidence suggests that patients' perceptions of food quality, dietary staff service, and facilities may change based on their hospitalized stay. Thakur et al. (2022) and Busra et al. (2017) mentioned that the longer the patients stayed in the hospital, the more they tended to be particular about the taste and variety of the food as well as the cleanliness of the utensils, such as the smell of the containers. In addition, Sahin et al. (2006) further stated that the length of hospital stay influences the patient's satisfaction regarding the food quantity and meal distribution timeliness. There was even a high prevalence of malnutrition among inpatients, regardless of age, gender, marital status, employment status, or diagnosis, associated with a longer hospital stay (Rinninella et al., 2019), and further stated in the study by Weraman et al. (2023) and Thakur et al. (2022), dietary staff responsiveness was not consistent as the patient stayed longer for a week in government hospitals. According to Timalisina et al., 2024, the satisfaction rate is higher among the patients who had one week of hospital stay compared to those patients who had two weeks and more than two weeks of hospital stay. Department admission does not show significant associations with any of the evaluation factors, indicating that the department a patient is admitted to

does not significantly affect their evaluations. The study of Sahin et al. (2006) and Nasirin et al. (2024) mentioned that the type of ward or admission of the patient did not have a direct correlation unless there was a restriction to the diet because of medical reasons.

Table 3. Test of association between socio-demographic profile and the three factors affecting patient satisfaction with the dietary service in the infirmary government hospital at President Roxas, Cotabato.

Socio-demographic Profile	Factors					
	Food Quality		Dietary Staff Service		Dietary Facility, Utensils, & Equipment	
	χ^2	<i>p-value</i>	χ^2	<i>p-value</i>	χ^2	<i>p-value</i>
Age	5.035	0.284	22.196	0.000 ***	2.444	0.655
Gender	12.082	0.017 *	10.804	0.095	16.023	0.003 **
Religion	23.586	0.000 ***	28.807	0.000 ***	54.358	0.000 ***
Ethnicity	51.867	0.000 ***	38.696	0.000 ***	53.790	0.000 ***
Educational background						
	31.938	0.000 ***	22.839	0.011 *	22.739	0.012 **
Income	2.992	0.224	3.569	0.168	1.890	0.389
Length of stay						
	49.868	0.000 ***	26.615	0.000 ***	18.330	0.001 **
Department admission						
	10.932	0.091	10.804	0.095	3.845	0.698

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Summary of Patient Responses with Corresponding Key Insights and Recommendations for Hospital Dietary Service Improvement

Table 4 shows the summary of the forty-three (43), or 17.2%, responses to the open-ended question. The participants' responses about the dietary service in the infirmary government hospital were organized into themes based on their feedback, with corresponding insights and recommendations that could provide a decision-driven policy plan for its improvement and enhancement. The majority (40%) of the feedback requested for halal foods and kitchens was followed by respect for Adventist practices and emphasis on their religious dietary restrictions (26%) and food separation and cross-contamination responses (12%). Positive feedback on the dietary services (16%) was also shown in the results, and only 1.2% gave feedback about dietary management engagement. Patients (3, 8, 11, 16, 22, 28, 32, 33, 62, 78, 92, 93, 106, 123, 148, 206, & 239) have requested separate food options, kitchens, and utensils for Muslim patients, particularly meals free from pork and pork derivatives. This demand reflects a clear desire for dedicated food preparation methods that cater to religious and cultural dietary preferences. The findings of Swihart et al. (2023) and Nemec et al. (2020) emphasize the importance of providing culturally sensitive food options for patients, which can significantly enhance patient satisfaction and adherence to religious dietary practices. Six (6) patients emphasized the importance of adhering strictly to SDA dietary laws and comparing these practices with other religions. This feedback highlights the strong sense of identity and pride in religious dietary observance, a sentiment supported by studies from Saintila et al. (2022). Respecting religious dietary practices is crucial for fostering trust and inclusivity in healthcare environments. Feedback from five (5) patients emphasizes the importance of adhering to Seventh-day Adventist (SDA) dietary restrictions, particularly avoiding pork, shrimp, and unscaled fish. These clients expressed dissatisfaction when their dietary needs were not met, highlighting the critical role that compliance with religious dietary guidelines plays in their overall patient satisfaction. For SDA individuals and Muslims, adherence to specific dietary practices is not just a matter of preference but a religious obligation that impacts their spiritual well-being. According to Choraqui et al. (2020), when these dietary restrictions are ignored, it can lead to discomfort and a sense of disrespect, as reflected in the experiences of the clients. This observation aligns with the findings of Arslan et al. (2024), who discussed the specific dietary needs of patients from religious communities. Non-compliance with these dietary practices can result in increased dissatisfaction, discomfort, and feelings of exclusion. Reddy et al. (2015) also highlight the importance of clear labeling and the provision of alternative meal options to ensure the dietary guidelines of religious groups are respected in healthcare settings. Three (3) patients raised concerns about the risk of cross-contamination from utensils and serving plates contaminated with pork grease or shrimp residue. This issue is significant for patients who adhere to strict dietary laws and can cause both physical discomfort and psychological distress (Thorne, 2024). Cross-contamination, as discussed by the Lark Editorial Team (2023), can severely compromise the dietary practices of individuals with food restrictions. Maintaining strict separation of kitchenware and utensils is crucial to preserve patient trust and safety. Several patients appealed to hospital management to address dietary concerns and request changes. Patients trust that management will implement solutions but express frustration about the gaps in accommodating their dietary needs. The research by Keelson, et al. (2024) and Omaghomi, et al. (2024) highlights the role of management engagement in addressing patient concerns, especially when it involves the integration of patient feedback into healthcare policies. Feedback from patients raised concerns about the food quality, particularly regarding unclean plates and the smell of pork grease. Cleanliness is integral to patient care, as patients with dietary restrictions are sensitive to food contamination. Research by Fernando et al. (2017) highlights the significance of maintaining hygiene standards in healthcare food services, especially for those with specific dietary needs. Patients expect clean, safe, and appropriately prepared meals. Several patients provided positive feedback about the responsiveness provided by the dietary staff. They appreciated the attentive and respectful service, which contributed to their overall satisfaction. Studies by Ferriera et al. (2023) and Kwame et al. (2021) highlighted the importance of positive interactions between healthcare staff, patients, and dietary staff. They noted that dietary staff attitudes significantly impact patient satisfaction and perceived quality of care.

Table 7. Summary of Patient Responses for Hospital Dietary Service Improvements.

Patient Responses	
1.	Requests for halal food options, kitchens and utensils for Muslim patients and other non-pork-eating Christian patients, including meals free from pork and shrimp (Patients 3, 8, 11, 16, 22, 28, 32, 33, 62, 78, 92, 93, 106, 123, 148, 206 & 239).
2.	SDA patients emphasize their strict adherence to religious dietary laws, comparing their practices with those of other religions (Patients 49, 56-58, 232, & 248).
3.	Clients emphasize their SDA (Seventh-day Adventist) dietary restrictions, particularly avoiding pork, shrimp, and unscaled fish (Patients 1, 3, 6, 9, and 13).
4.	Concern about cross-contamination of utensils and serving plates with pork grease or shrimp residue (Patients 1, 6, 9, 10, and 13).
5.	Clients appeal to hospital management to address their dietary concerns and request changes (Patients 2, 5, and 7).
6.	Overall satisfaction with the dietary service, cleanliness, and attentiveness of staff (Patients 112, 129, 131, & 145-148).

Policy Plan for Halal Certification

A robust policy plan for halal certification in a hospital dietary unit must address compliance with Islamic dietary laws, operational integrity, and cultural sensitivity, which would benefit the Muslim patients and the Seventh-Day Adventists of this institution. Halal sourcing and ingredient procurement must be verified using suppliers approved by recognized Halal authorities (Handayani et al., 2022). Supian et al. (2018) further stated that dedicated facilities and cleaning protocols to prevent cross-contamination are vital elements of Halal certification. Moreover, Azmi (2024) mentioned staff training and compliance to establish Halal awareness and appointing a team to oversee compliance, conduct audits, and address non-conformities. One hospital in Malaysia maintains its Halal-certified kitchen, uses segregated storage, and trains staff annually (Rahman et al., 2023). As seen in Appendix N, the policy plan for the hospital's Halal certification was outlined in this study.

STRENGTHS AND LIMITATIONS

This study provided valuable insights into the specific context of dietary services at the infirmary government hospital at President Roxas. The findings can inform policy decisions and lead to improvements in patient satisfaction. However, it is important to acknowledge the limitations of the study and recognize that its findings may not be directly applicable to other healthcare settings. Further research across different hospitals and healthcare systems is needed to gain a comprehensive understanding of factors influencing patient satisfaction with dietary services. It aimed to understand and improve patient satisfaction with dietary services, focusing on a single government hospital in President Roxas, Cotabato, in which developing a policy plan is the ultimate goal. The outcome suggests a practical and actionable focus. The findings may not be generalizable to other hospitals, especially those with different resources, staffing levels, or patient demographics. The study focuses solely on dietary services and does not explore other factors that might influence overall patient satisfaction, such as medical care, staff interactions, or hospital facilities.

CONCLUSION

The research revealed significant associations between the socio-demographic profile of the patients and their satisfaction with the dietary service in the hospital. The socio-demographic profile of inpatients at the government infirmary hospital reveals a younger, predominantly female population with diverse religious and ethnic backgrounds. Financial challenges are evident, as many patients have low or no income. Most patients are admitted to the medicine department and have relatively short stays. This data can inform healthcare planning, resource allocation, and targeted interventions for this patient population. The mean scores indicate that patients were generally satisfied with the dietary services, particularly in food taste, staff professionalism, and cleanliness. The dissatisfied mean score for food variety suggested a need for improvement in this area to enhance patient satisfaction. Additionally, improving the timeliness and effectiveness of responses to patient concerns can further enhance the service quality. High satisfaction regarding the cleanliness of food servers and overall hygiene in the dietary service is a strong point, contributing significantly to patient comfort and safety. The analysis shows that while patients are mainly satisfied with dietary services, there are specific areas, such as meal variety and portion sizes, where improvements can be made. Addressing these aspects could lead to a more positive overall patient experience in the hospital. The chi-square test results suggest that demographic factors significantly influence perceptions of food quality, dietary staff service, and dietary facilities. Understanding these associations can help tailor services and improve overall satisfaction based on specific demographic needs. The strong associations with factors such as cleanliness and staff attitude highlight areas for potential improvement and focus in service delivery. Variety of food, amount of food, addressing of dietary concerns, and timeliness of response to complaints and requests were among the factors that sought improvement, as reflected in the findings. This study recommends further improvements in the variety of food with utmost consideration to the religious restrictions of the majority of the patients. Further, the bulk of the feedback from the patients requested the establishment of separate kitchens, utensils, and food options, which might affect their satisfaction towards these factors on dietary service as these findings best fit into a policy plan for Halal certification of the dietary unit. While the policy may seem exclusive, it appropriately addresses most clients' food preferences for cultural and religious reasons.

Continuous monitoring and evaluation of the dietary services of the hospital could increase its good standing regarding standardization and strict adherence to protocols that would highly benefit the patients. It is highly recommended that a multi-phased study design may be utilized in further studies which include phases of qualitative, quantitative, training program, and evaluation so that new information emerges which could fully address all aspects of concern of the dietary services of a particular healthcare institution.

AVAILABILITY OF DATA AND MATERIALS

The data relating to this manuscript are available upon request.

ABBREVIATIONS

ACHFPSQ	Acute Care Hospital Foodservice Patient Satisfaction Questionnaire
SPSS	Statistical Package for Social Science
SDA	Seventh Day Adventists

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