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SATISFACTION OF PATIENTS FROM OCCUPATIONAL THERAPY SERVICES OFFERED AT A TERTIARY CARE HOSPITAL IN PESHAWAR, PAKISTAN: A CROSS-SECTIONAL STUDY UTILIZING SAPS AND PSQ-18

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Abstract

Background: Patient satisfaction is a key measure of the quality of health care services and is significant in the context of rehabilitation services where patient and caregiver participation can have an impact on the continuity of care and treatment outcomes. The main goals of occupational therapy services are to enhance functional ability and independence, and participation in activities of daily living, but evidence from the local context on satisfaction with occupational therapy services in tertiary care settings is scarce in Pakistan. To find out the degree of satisfaction of patients in OT services of Lady Reading Hospital, Peshawar with the help of Short Assessment of Patient Satisfaction (SAPS) and Short Form Patient Satisfaction Questionnaire (PSQ-18) and to evaluate some factors which cause dissatisfaction. **Methodology:** This was an institution based cross sectional study which was conducted in Occupational Therapy Department of Lady Reading Hospital Peshawar from October 2019 to March 2020. Convenience sampling was used to include a total of 387 patients who were receiving occupational therapy services. Structured questionnaire was used in order to collect data including sociodemographic data and SAPS and PSQ-18. IBM SPSS software was used for data analysis. Categorical data was summarized as frequencies and percentages, and age data was summarized as mean and SD. Chi-square tests were used to evaluate for associations between participant characteristics and satisfaction outcomes. Binary logistic regression was used to determine independent predictors of PSQ-18 dissatisfaction. A p-value < 0.05 was deemed to be statistically significant. **Results:** The median age of the participants was 3.0 years, and the mean was 4.42 ± 3.54 years. The majority of the participants were male (56.1%), from the middle (64.9%) and from Peshawar (58.9%). According to SAPS, 175 participants (45.2%) were satisfied and 149 (38.5%) were very satisfied; therefore, overall SAPS satisfaction was 83.7% (95% CI: 79.7–87.1). According to PSQ-18, 339 participants (87.6%; 95% CI: 83.9–90.5) were satisfied, while 48 (12.4%) were dissatisfied. Socioeconomic status ($p < 0.001$) was significantly associated with SAPS dissatisfaction. Gender ($p = 0.009$) and Age Category ($p = 0.017$)

were significant factors associated with PSQ-18 dissatisfaction. Female participants were more likely to be PSQ-18 dissatisfied than male participants (aOR = 2.31; 95% CI: 1.22–4.36; p = 0.010) and participants aged ⩾5 years were less likely to be PSQ-18 dissatisfied than those aged <5 years (aOR = 0.42; 95% CI: 0.21–0.87; p = 0.018) in multivariable logistic regression. **Conclusion:** Majority of patients getting occupational therapy services at Lady Reading Hospital Peshawar were satisfied or very satisfied with the services received. The mean score for both SAPS and PSQ-18 were consistently high. Satisfaction was however relatively low among female participants and younger children suggesting the importance of enhancing communication, engagement of caregivers and responsiveness to services for young and female children.

Keywords: Patient satisfaction, Occupational Therapy, SAPS, PSQ-18, Rehabilitation, Tertiary care hospital, Peshawar.

1. Introduction

Occupational therapy is a vital health profession which helps individuals engage in meaningful occupations in their daily lives, regardless of illness, disability, developmental delay, injury or functional limitation. Occupational therapy is defined by the World Federation of Occupational Therapists as a profession that "promotes health and participation in meaningful occupations that people need, want or are expected to do. Likewise, the Occupational Therapy Practice Framework highlights that occupational therapy is about becoming healthy, well, and being able to participate in life by engaging in occupations [2]. Clinically, occupational therapy services are provided to conduct assessments, therapeutic activities, functional training, environmental modifications, and educating and supporting activities of daily living for the caregiver. In tertiary care hospitals these services are especially vital as patients frequently bring complex rehabilitation needs to the hospital that needs to be provided by a multidisciplinary team and repeated follow-up.

The need for rehabilitation services is expanding globally as a result of population growth, increased life expectancy, childhood developmental conditions, injuries, disability and an increased burden of chronic diseases. About 2.4 billion people in the world have health problems that could be treated by rehabilitation, and this is likely to grow in the future according to the World Health Organization [3]. Rehabilitation is thus

not only a supportive part of health care, but also a crucial service to enhance functioning, independence, social participation and quality of life. As part of this rehabilitation context, occupational therapy assumes a very important position because it is based on the individual's ability to carry out activities of daily living and engage in family, school, community and social activities.

One indicator used to measure responsiveness and quality of healthcare is patient satisfaction. It captures patient's expectations of the care they receive, such as in terms of communication, respect, technical quality, accessibility, waiting time, cost and the overall experience of treatment. The systematic review recently published found that patient satisfaction is affected by a variety of service factors, and satisfaction is now a growing tool for measuring health care system failures and determining system improvements [4]. Patient satisfaction is a critical factor in rehabilitation settings, as it is important for the process to be successful and can depend on patient motivation, caregiver cooperation, continuity of care and compliance with home-based recommendations. Patients and caregivers are more likely to adhere to therapy and the therapist's advice if they are satisfied with the therapist's communication, explanation of the treatment goal, interpersonal behavior, and clinical attention.

Some things that can impact satisfaction in occupational therapy and rehabilitation services are: interactions with the therapist, improvement in functional abilities, participation in goal setting, the length of the therapy session, the availability of services, and the perceived effects of treatment. One of the past occupational therapy studies found that functional gains, particularly in self-care, are significant indicators of client satisfaction [5]. Likewise, patients who were satisfied with their rehabilitation services were more likely to adhere to rehabilitation and to continue using rehabilitation services [6]. Thus, satisfaction measurement can be used to gain insight into patient experience, to enhance the quality of the service and to be able to identify target groups for further counselling or support in occupational therapy departments.

There are a number of tools available to measure patient satisfaction. The Short Assessment of Patient Satisfaction (SAPS) is a simple and practical tool to measure the satisfaction with healthcare treatment in routine clinical practice. It rates specific elements of care such as: satisfaction with the treatment effect; explanation by provider;

carefulness during examination; involvement in decisions; respect; time spent; and overall satisfaction [7]. Another common tool used to measure multiple aspects of satisfaction is the Short-Form Patient Satisfaction Questionnaire (PSQ-18), which includes general satisfaction, technical quality, interpersonal mannerism, communication, financial considerations, time spent with provider, and accessibility/convenience [8]. Utilizing both the SAPS and PSQ-18 provides a broader range of satisfaction understanding, with a short clinical satisfaction scale and a patient satisfaction questionnaire with dimensions.

Information on patient satisfaction with occupational therapy services in Pakistan is still scarce particularly in the tertiary care hospitals. The majority of studies that exist in the local area are on general out-patient, in-patient or dental services, emergency services or other health services and only a few target satisfaction of occupational therapy. Lady Reading Hospital is a large tertiary care hospital which caters to patients from Peshawar and some other districts of Khyber Pakhtunkhwa. It is significant to assess satisfaction with occupational therapy services in this context to identify the strengths and the weaknesses of the services provided at the moment, increase patient-centered care, and plan rehabilitation in the future.

In view of this, the current study was conducted to determine level of satisfaction of patients/caregivers to occupational therapy (OT) service provided by OT in a tertiary care hospital in Peshawar, Pakistan with the help of SAPS and PSQ-18. To evaluate level of patient satisfaction regarding occupational therapy services being provided at lady reading hospital Peshawar. The main endpoint was the degree of overall satisfaction with SAPS and PSQ-18 from either patients or their caregivers. This study also aimed to depict the sociodemographic characteristics of participants (i.e., age, gender, socioeconomic level and area of residence). The study also aimed to determine patient satisfaction according to characteristics such as gender, age group, socioeconomic status and residence. Lastly, the study sought to determine independent predictors of dissatisfaction by means of multivariable logistic regression as a way to identify particular groups requiring services improvement.

2. Methodology

2.1 Study Design

The present study was conducted as a cross sectional study based on institution to investigate the satisfaction level of the patients towards the occupational therapy services. A cross-sectional design was used because it is suitable for estimating the prevalence of an outcome and evaluating the relationships between participants' characteristics and their outcome status at a single time point [8, 9]. The study was reported according to strengthening the Reporting of Observational Studies in Epidemiology (STROBE) recommendations for observational cross sectional studies [8].

2.3 Study Setting

The study was performed in the Department of Occupational Therapy at Lady reading Hospital Peshawar Khyber Pakhtunkhwa, Pakistan. Lady Reading Hospital is a tertiary care hospital which caters the patients from Peshawar and other districts of Khyber Pakhtunkhwa province and surrounding areas. The OT unit is responsible for conducting assessment, treatment and follow-up for patients who need rehabilitation-related support in the area of activities of daily living.

2.4 Study Duration

The research protocol was approved and the study was finished after six months. The data collection period was October 2023 to March 2024. In this timeframe, eligible patients undergoing occupational therapy care were approached, screened based on the inclusion/exclusion criteria, consented and recruited for the study.

2.5 Study Population

All patients who attended the Occupational Therapy Department of Lady Reading Hospital, Peshawar during the study period and were seen by the department were the study population. Male and female patients who fulfilled the set selection criteria were included.

2.6 Inclusion Criteria

Those who had received occupational therapy at the study setting during the data collection period were included. Both male and female patients were eligible. Depending on the patient's age and ability to respond, informed consent was given by the participant or attendant.

2.7 Exclusion Criteria

Patients were ineligible for inclusion if they had significant underlying medical conditions that may have influenced participation or completion of the questionnaire, including a severe cardiac illness, pneumonia or other acute medical complications. Other patients who were referred but not provided with occupational therapy services at the study site or patients who left against medical advice were excluded as well.

2.8 Sample Size

The final analysis included a total of 387 participants. The sample size was determined by an OpenEpi sample size estimation for a single proportion with a confidence level of 95%, and an assumed outcome proportion of 14%. OpenEpi is commonly used for calculating sample size in descriptive and analytical epidemiological studies [10].

2.9 Sampling Technique

A non-probability convenience sampling technique was used. Patients who met the selection criteria were approached to participate in the study until the required sample size was obtained as they attended the Occupational Therapy Department during the study period. Convenience sampling is often applied in any type of cross-sectional study conducted in a clinical department, provided a sampling frame (all service users) is not available and the methodological strength is therefore less than that of probability sampling.

2.10 Data Collection Tool

Structured questionnaire with three sections was used to collect data. The first section comprised sociodemographic data including age, gender, socio-economic status and geographical location. These variables were utilized to describe the study population and to investigate the relationship between these variables and satisfaction outcomes. The second section included the Short Assessment of Patient Satisfaction (SAPS). SAPS is a short patient-reported satisfaction tool to evaluate satisfaction with clinical care. It covers the areas of satisfaction with treatment effect, explanation by care provider, carefulness while being assessed, and involvement in decisions, respect, consultation time and overall care. Likert-type responses are used by SAPS and it gives a total score, with higher scores representing higher satisfaction levels [11]. The satisfaction of SAPS

was categorized based on the scale as stated in the thesis as: Very dissatisfaction (0-10), dissatisfaction (11-18), satisfaction (19-26) and very satisfaction (27-28).

The Short-Form Patient Satisfaction Questionnaire (PSQ-18) was part of the third section. The PSQ-18 is a frequently used brief scale to assess patient satisfaction with health care. It considers several aspects of satisfaction, such as overall satisfaction, technical quality, interpersonal demean our, communication, financial factors, time with the provider and accessibility/convenience [12]. The PSQ-18 score was divided into two categories: dissatisfied (score < 50) and satisfied (score > 50).

2.11 Data Collection Procedure

Permission was taken from the respective department of Lady Reading Hospital prior to data collection. It was determined that eligible patients were identified from the Occupational Therapy Department during the typical service delivery. The patients or their attendants were informed of the purpose of the study and informed consent (both written and verbal) was obtained before enrolment. Once consent, participants were screened based on inclusion/exclusion criteria. The questionnaire was then administered by the researcher. The researcher explained the question in simple language without influencing the answer if the participant/attendant had difficulty understanding any question. For those who could not read or fill out the questionnaire by themselves, the researcher read the items and recorded the answers as they were given by the participant/attendant.

2.12 Study Variables

Satisfaction with occupational therapy services measured by SAPS and PSQ-18 was the primary outcome variables. For descriptive analysis, the data on SAPS was treated as a four ordinal level categorical variable: very dissatisfied, dissatisfied, satisfied, and very satisfied. In addition, the SAPS was dichotomized for further analysis into a "dissatisfied/very dissatisfied" versus "satisfied/very satisfied" group. The outcome of PSQ-18 was analyzed as a binary (dissatisfied vs satisfied) satisfaction outcome. Independent variables were age, sex, socioeconomic status and place of residence. Age was used as a continuous variable and mean and standard deviations were also presented.

2.13 Statistical Analysis

All variables were first calculated descriptive statistics. For continuous variables, the mean, standard deviation, minimum and maximum values were computed and reported. Frequencies and percentages were used to summarize categorical variables such as gender, socioeconomic status, place of residence, SAPS category, and PSQ-18 satisfaction status. The main outcome of interest was patient satisfaction with occupational therapy services. For both SAPS and PSQ-18, the percentage of patients who were satisfied was computed. The overall satisfaction proportion was computed for SAPS, by lumping together that of participants who were 'satisfied' and ‘very satisfied'. In the re-analysis, 83.7 % of the 387 participants were satisfied or very satisfied with SAPS. The overall PSQ-18 satisfaction level was 87.6% (339/387) with PSQ-18 satisfied participants. Selected participant characteristics were analyzed with bivariate tests to examine their association with satisfaction outcomes. Where there were adequate expected cell counts, the chi-square test was used. Fisher's exact test was used for small expected cell counts. A p value < 0.05 was accepted as being statistically significant. For factors associated with satisfaction status, a dichotomous outcome variable, binary logistic regression was considered. For this purpose, satisfaction was categorized as satisfied versus dissatisfied. Age, socioeconomic status and gender were evaluated as independent variables for regression when both statistically and clinically relevant. For statistical and clinically relevant independent variables, age, socioeconomic status, and gender were evaluated. Odds Ratios (ORs) % confidence interval (CIs) were reported to indicate the direction and magnitude of association. The interpretation of regression results, however, was maintained with some caution as there were limited predictor variables available in the dataset and important clinical variables (e.g., diagnosis, duration of therapy, waiting time, severity of condition, number of therapy sessions, and therapist-related variables) were not included.

2.14 Ethical Considerations

The Advanced Studies and Research Board of Institute of Public Health and Social Sciences, Khyber Medical University has approved the study for ethical clearance. Prior to data collection, administrative permission was gained from the appropriate department in Lady Reading Hospital. The purpose of the study, voluntary participation,

confidentiality of information, and the right to withdraw from the study without impacting treatment were informed to all participants/attendants. All the participants were anonymous and only data were utilized for research. Ethical issues of the study were aligned with the accepted guidelines for research with human subjects such as respect for persons, confidentiality, and informed consent, all of which were freely given [13].

Strengths and limitations of the methodology used. The strengths and limitations of the methodology adopted. Two well-known patient satisfaction questionnaires, the SAPS and PSQ-18 were employed, enabling patient satisfaction to be assessed through multiple measurement dimensions. The number of patients sampled was sufficient to get an estimate of the overall satisfaction of patients attending the occupational therapy department. Convenience sampling can restrict the findings of a study to within the study only. The study aimed to be performed in a single tertiary care hospital and therefore findings may not be generalizable to all service users of occupational therapy in Pakistan.

3. Results

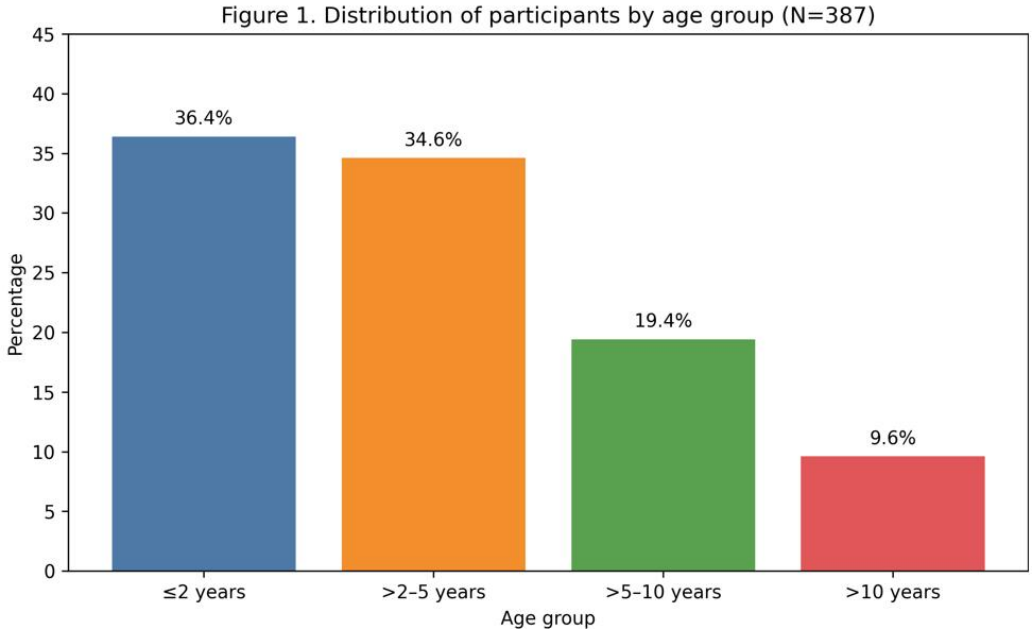

Figure 1: Distribution of participants by age group

Figure 1 shows the distribution of participants according to age group. The age group with the highest proportion of participants was ⩽2 years old (36.4%) and it was followed by the age group >2-5 years (34.6%). The age group between >5–10 years had the largest share of participants, at 19.4%, followed by the age group >10 years which had the smallest share of participants at 9.6%. In general, the majority of the children who received occupational therapy services were young children, especially those under the age of 5. This indicates that the major use of occupational therapy services in the study environment was on early childhood rehabilitation needs.

The table 1 shows the sociodemographic features of the participants of the study. The mean age of the subjects was 4.42 ± 3.54 years, the median age was 3.0 years and the interquartile range was 1.6 – 6.0 years. The ages of the participants ranged from 0.5 to 16 years, indicating that the study primarily focused on children receiving occupational therapy services. The largest age group was ⩽2 years, comprising 141 participants (36.4%), followed by the >2–5 years group with 134 participants (34.6%). This means that majority of the participants were 5 years old and below.

As for gender, males were slightly more represented than females; 217 males (56.1%) were seen as compared to 170 females (43.9%). Socioeconomic status-wise, most participants were from the middle socioeconomic group (251, 64.9%) followed by the low socioeconomic group (79, 20.4%) and the high socioeconomic group (57, 14.7%). In terms of residence, over half of the respondents were from Peshawar (228 respondents, 58.9%) and the remaining 159 respondents (41.1%) were from outside of Peshawar. From the overview of the table, it can be seen that the respondents were mainly young children, mostly male, mostly from middle socioeconomic status and majority of the children were residing in Peshawar.

Table 1: *Sociodemographic profile of participants (N = 387)*

Variable	Category/summary	n (%) or summary
Age (years)	Mean ± SD	4.42 ± 3.54
Age (years)	Median (IQR)	3.0 (1.6-6.0)
Age (years)	Range	0.5-16.0

Variable	Category/summary	n (%) or summary
Age group	⩽2 years	141 (36.4)
Age group	>2-5 years	134 (34.6)
Age group	>5-10 years	75 (19.4)
Age group	>10 years	37 (9.6)
Gender	Male	217 (56.1)
Gender	Female	170 (43.9)
Socioeconomic status	High	57 (14.7)
Socioeconomic status	Middle	251 (64.9)
Socioeconomic status	Low	79 (20.4)
Residence	Peshawar	228 (58.9)
Residence	Outside Peshawar	159 (41.1)

The table 2 below indicates the region of residence of the participants. The majority of patients who were provided with occupational therapy services at Lady Reading Hospital were local patients, the highest being from Peshawar (228 - 58.9%). The second largest group was from Charsadda, with 45 participants (11.6%), followed by Dir with 21 participants (5.4%) and Swabi with 15 participants (3.9%). Less people were from Nowshera, Mardan, Khyber, Karak, Swat, Kohat, Bannu, Afghanistan, Buner and Bajur. The overall description of the table shows that the main patient base of the occupational therapy department was from Peshawar but there were patients from several other districts of Khyber Pakhtunkhwa and adjacent areas as it is a tertiary health center and often receives referrals from other health centers in the province.

Table 2: *Distribution of participants by address (N = 387)*

Address	n	%
Peshawar	228	58.9
Charsadda	45	11.6
Dir	21	5.4
Swabi	15	3.9
Nowshera	14	3.6
Mardan	14	3.6
Khyber	11	2.8
Karak	10	2.6
Swat	10	2.6
Kohat	8	2.1
Bannu	5	1.3
Afghanistan	3	0.8
Buner	2	0.5
Bajur	1	0.3

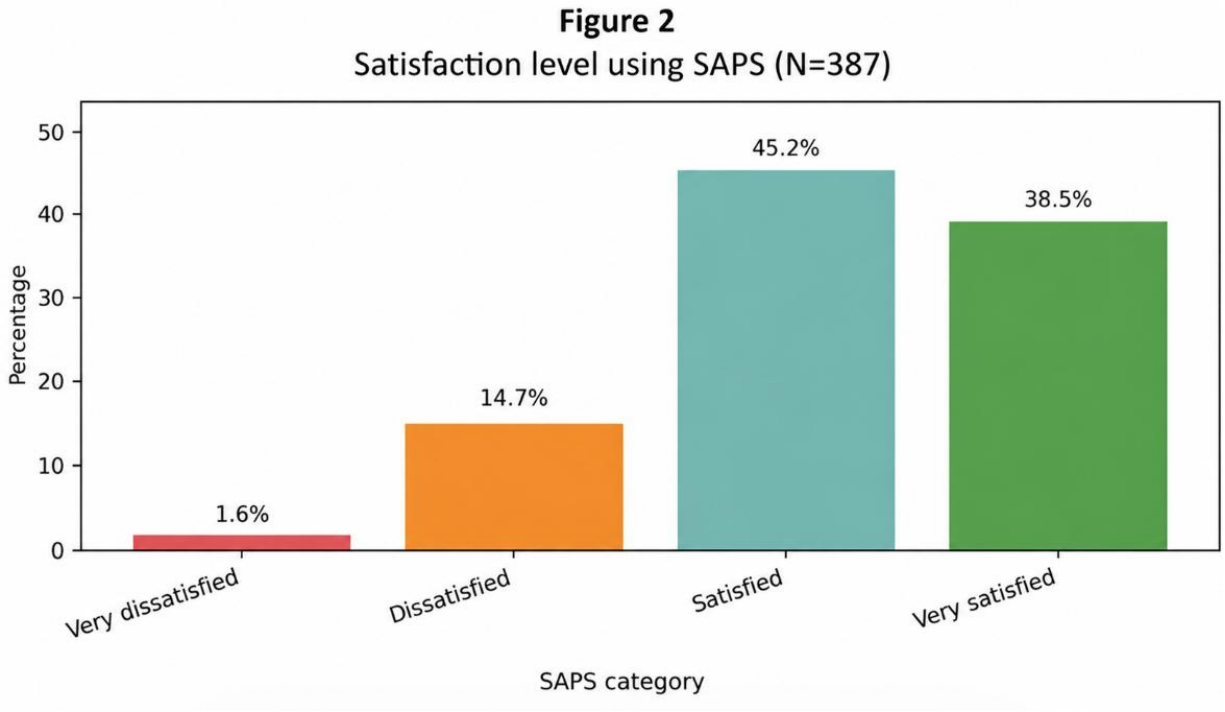

Figure 2: Satisfaction Level Using SAPS.

Figure 2 shows the level of satisfaction of the patients with respect to OT services on SAPS scale. The results indicate that the majority of participants have a high level of satisfaction, and 45.2% were considered satisfied, and 38.5% were very satisfied. The overall satisfaction with occupational therapy services was 83.7% satisfied or very satisfied. In comparison, 14.7% of participants were dissatisfied and only 1.6% were very dissatisfied. These results show that most of the patients/caregivers were satisfied with the OT care received in Lady Reading Hospital, Peshawar. But a small proportion of unhappy users indicates that there are still some aspects to be improved, such as how patients are treated, counselling, the time patients need to wait, or the treatment goals explained.

3.1 Bivariate Analysis

The table 3 shows bivariate associations between selected participant characteristics and participants who were dissatisfied or very dissatisfied with occupational therapy services (SAPS dissatisfaction). Overall, gender, place and age group were not significantly different in terms of dissatisfaction. There were no significant differences between males and females, with 31 out of 170 females (18.2%) dissatisfied or very dissatisfied, and 32

out of 217 males (14.7%). Likewise, the participants from Peshawar (40/228, 17.5%) were more displeased than the participants residing outside Peshawar (23/159, 14.5%), but this was not statistically significant (p = 0.505).

There was no significant relationship between the satisfaction of SAPS and age. The highest dissatisfaction was observed in the >2–5 years age group 25/134 (18.7%), followed by ⩽2 years 23/141 (16.3%), >10 years 6/37 (16.2%), and >5–10 years 9/75 (12.0%); however, these differences were not statistically significant (p = 0.668). When age was grouped as <5 years and ⩾5 years, dissatisfaction was 14.6% and 18.8%, respectively, again showing no significant association (p = 0.335).

Table 3: *Bivariate association with SAPS dissatisfaction*

Variable	Category	Dissatisfied/very dissatisfied n/N (%)	p-value
Gender	Female	31/170 (18.2)	0.433
Gender	Male	32/217 (14.7)	
Socioeconomic status	High	0/57 (0.0)	<0.001
Socioeconomic status	Low	6/79 (7.6)	
Socioeconomic status	Middle	57/251 (22.7)	
Residence	Outside Peshawar	23/159 (14.5)	0.505
Residence	Peshawar	40/228 (17.5)	
Age group	⩽2 years	23/141 (16.3)	0.668
Age group	>2–5 years	25/134 (18.7)	
Age group	>5–10 years	9/75 (12.0)	
Age group	>10 years	6/37 (16.2)	
Age ⩾5 years	<5 years	34/233 (14.6)	0.335
Age ⩾5 years	⩾5 years	29/154 (18.8)	

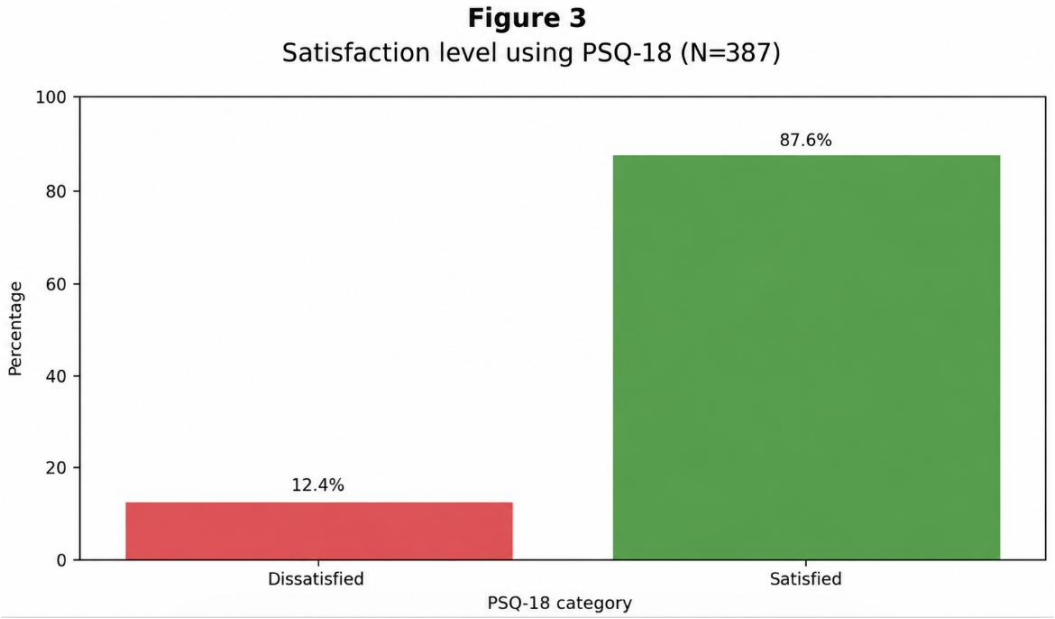

Figure 3: Satisfaction Level Using PSQ-18.

The distribution of patient satisfaction according to PSQ-18 scale is displayed in figure 3. The results show that most of the participants, 87.6%, were satisfied with the occupational therapy services, and only 12.4% were not satisfied. This indicates that the general opinion about occupational therapy treatment at Lady Reading Hospital, Peshawar was very positive. The high satisfaction rates indicate that the majority of patients/caregivers were satisfied with the quality of care, therapist communications, and interpersonal behavior, time spent in therapy, and accessibility of services. The unsatisfied percentage however suggests that there might be gaps in the service and that this could be improved by providing better counselling, patient/care feedback, and explaining the treatment plan more.

3.2 Bivariate Analysis

In the accompanying table 4, we explore the bivariate association between participant characteristics and dissatisfaction with their PSQ-18 (operationalized as having a PSQ-18 score 2–5 years group (12.7%) to the >10 year group (8.1%) and hitting a low in the > 5–10 years group at 5.3% This age-group comparison approached significance with lower dissatisfaction in older children (p = 0.077). But, when age was classified in <5 years and ⩾5 years we found a statistically significant association (p=0.017). Participants aged <5 years were more dissatisfactory 37/233 (15.9%), as opposed to those aged ⩾5

years 11/154 (7.1%). This could imply that issue around occupational therapy services was more frequent among preschoolers or their parents.

Table 4: *Bivariate association with PSQ-18 dissatisfaction*

Variable	Category	Dissatisfied (<50) n/N (%)	p-value
Gender	Female	30/170 (17.6)	0.009
Gender	Male	18/217 (8.3)	
Socioeconomic status	High	6/57 (10.5)	0.897
Socioeconomic status	Low	10/79 (12.7)	
Socioeconomic status	Middle	32/251 (12.7)	
Residence	Outside Peshawar	18/159 (11.3)	0.702
Residence	Peshawar	30/228 (13.2)	
Age group	⩽2 years	24/141 (17.0)	0.077
Age group	>2–5 years	17/134 (12.7)	
Age group	>5–10 years	4/75 (5.3)	
Age group	>10 years	3/37 (8.1)	
Age ⩾5 years	<5 years	37/233 (15.9)	0.017
Age ⩾5 years	⩾5 years	11/154 (7.1)	

3.4 Multivariable logistic regression

The table 5 summarizes the multivariable logistic regression analysis for factors related to PSQ-18 dissatisfaction. Only two variables were significantly associated with dissatisfaction after adjusting for age, gender, SES and dwelling: age category and gender.

Patients aged⩾5 years had significantly lower inappropriate dissatisfaction odds compared to those <5 years. Results. The adjusted odds ratio was 0.42 (95% CI, 0.21–0.87） p = 0.018 This means that children aged five years and over had a 58% lower

odds of being dissatisfied with occupational therapy services than younger children. These results indicate that discontent was more prevalent in younger children or their caregivers. In comparison with male participants, females had a 1.40 (95% CI 1.12–1.75) greater odds of dissatisfaction. After correcting for covariates the aOR was 2.31 (95% CI 1.22–4.36, p = 0.010) This means that females were more than twice as likely to be unhappy with occupational therapy services compared to males, even after adjusting for other factors.

Socioeconomic status was not an independent predictor of PSQ-18 dissatisfaction. For miR-451, the adjusted odds ratio of cell number was 1.33 (95% CI: 0.52–3.41; p = 0.558) compare significantly and similarly with high socioeconomic group as a reference value in middle socioeconomic group; low socioeconomic group (adjusted odds ratio=1.41, 95% CI: 0.47–4.26; p = 0.545). Additionally, residence in a specific area was not significantly associated with dissatisfaction. The adjusted odds ratio in participants from outside Peshawar versus participants from Peshawar was 0.82 (95% CI: 0.44–1.55; p = 0.547). Overall, the regression model demonstrates that female sex, and a child aged ⩾5 years are associated with increased likelihood of PSQ-18 dissatisfaction. There were no significant independent effects of socioeconomic status and place of residence site, after an adjusted analysis.

Table 5: *Multivariable logistic regression for PSQ-18 dissatisfaction*

Predictor	Adjusted OR	95% CI	p-value
Age ⩾5 years vs <5 years	0.42	0.21-0.87	0.018
Female vs male	2.31	1.22-4.36	0.010
Middle vs high socioeconomic status	1.33	0.52-3.41	0.558
Low vs high socioeconomic status	1.41	0.47-4.26	0.545
Outside Peshawar vs Peshawar	0.82	0.44-1.55	0.547

4. Discussion

This was a cross sectional study to evaluate patients' satisfaction towards occupational therapy service received in a tertiary care hospital in Peshawar using two scales of satisfaction namely SAPS and PSQ-18. The overall satisfaction was found to be high. The

results indicated that 83.7% of the participants were either satisfied or very satisfied, and PSQ-18 revealed that 87.6% were satisfied with occupational therapy services [13, 14]. The results show that the majority of users of the OT service had a favorable attitude towards OT services given at Lady Reading Hospital.

Patient satisfaction, as measured in this study, was high, which is encouraging as patient satisfaction is well known to be important as an indicator of healthcare quality. Satisfaction is particularly important in rehabilitation services, as rehabilitation may involve re-visiting the therapist, a sense of cooperation, involvement of the caregiver, and a need to follow advice given at home [15]. Based on the satisfaction measured by SAPS, almost half of the respondents were satisfied and over one third very satisfied. There were only a few who were extremely unhappy. Likewise, PSQ-18 had a high satisfaction rate, with less than 1/7 of the participants considered to be dissatisfied. A consistency check between the two scales lends support to the interpretation that satisfaction was truly high in this population [16]. The use of two tools is a methodological advantage since SAPS measures overall clinical satisfaction and PSQ-18 measures overall satisfaction, including technical quality, interpersonal approach, communication, financial issues, time spent with the provider and access [17].

The bivariate analysis showed that socioeconomic status was significantly associated with the SAPS dissatisfaction. The dissatisfaction rate was highest among the middle socioeconomic group and there was no dissatisfaction among the high socioeconomic group. This discovery might be due to disparities in expectations, cost of services, access to support services, or views about service quality held by the caregiver. Services may be viewed differently by families from varying socio-economic status from the perspective of the costs involved, transport costs, wait times, and expectations of care from a tertiary care hospital. This relationship needs to be taken with a pinch of salt, as the PSQ-18 dissatisfaction was not independently associated with socioeconomic status in the adjusted logistic regression analysis [18].

Gender was significantly related to PSQ-18 dissatisfaction. After controlling for age, socioeconomic status, and place of residence, women were more likely to be dissatisfied than men. The finding indicates that there may be differences in the experience and perception of occupational therapy services for women and their

caregivers. Some differences in expectations, concern of caregivers, communication needs, culture, or attention during therapy sessions may be responsible [19, 20]. Gender differences in access to care, family decision making and caregiver involvement also could play a role in satisfaction in local settings. This finding underscores the importance of equal attention, communication and supportive care for both male and female patients by service providers.

There was also an independent association between the PSQ-18 dissatisfaction and age. The odds of dissatisfaction were significantly lower for those 5 years old or older versus younger children. This could be because older children are better able to cooperate in therapy sessions, to report when they feel better or worse and to be able to engage in occupational therapy activities [21]. Therapy, on the other hand, for younger children, might rely significantly on caregiver understanding, expectations, and perceptions for improvement. More counselling, explanations and reassurance may be needed for very young children's caregivers about the anticipated rate of functional changes. The results of this study indicate that caregiver education and follow-up communication should be more structured for occupational therapy services provided to younger children.

However, there was no significant relationship between residence and dissatisfaction. A big section of the participants were from Peshawar district, while many were from other districts of Khyber Pakhtunkhwa province and adjoining areas. The absence of the significant association implies that the level of satisfaction of those patients who did not come from Peshawar was similar with those who came from Peshawar. This could mean that the department delivers relatively uniform services to patients referred by physicians and those seen for a local referral. There was some lack of detail regarding travel distance, transport costs, and follow-up difficulty; however, this may not fully account for the impact of geographical barriers in this data set.

The results of this study have certain implications for services. Continued attention to therapist/patient communication, respectful behavior, sufficient explanation of therapy goals and caregiver involvement in decision making are important factors to maintain a high level of satisfaction. Second, that the relative dissatisfaction of female and younger children should be tackled by focusing on specific quality improvement

initiatives. Some of these can be caregiver counselling, explanation of age appropriate therapy, improved appointment information and feedback systems for parents or attendants. Third, periodic satisfaction measurement can be used to identify gaps in the services and to track service quality over time [22].

There are some restrictions, though. Causation is not possible with the cross-sectional design and generalizability is limited because of the convenience sampling [23]. The study was carried out in a single tertiary care hospital and may not be generalizable to other hospitals or areas. In general, the study shows that patients were very satisfied with occupational therapy services in Lady Reading Hospital. Concurrently, the results provide guidance on which groups could benefit from service improvements, including those that are female and under five years of age.

5. Conclusion

The study revealed that most of the patients who received occupational therapy services at Lady reading hospital, Peshawar were satisfied with the services received by them. Overall satisfaction was high on both assessment tools, with 83.7% of respondents being satisfied or very satisfied with the overall satisfaction based on SAPS and 87.6% satisfied based on PSQ-18. The results of this study indicate that, in general, patient and caregivers' acceptance of occupational therapy services at the study setting is positive. Socio-economic status was found to be a significant factor that was linked to SAPS dissatisfaction, while gender and age were found to be significant factors that were linked to PSQ-18 dissatisfaction. In the adjusted analysis, women were more likely to be dissatisfied, while those older than 5 years were less likely to be dissatisfied than younger children. The overall level of satisfaction was good, but there is a need for service experience to be enhanced for female patients and younger children. Assessing the need for enhanced caregiver counselling, better communication on occupational therapy goals and outcomes of therapy and systems of regular patient/caregiver feedback in the occupational therapy department are recommended. This study should be repeated in other centers with larger sample size and clinical variables like diagnosis, disability, waiting period, number of therapy sessions and treatment outcomes should be included to better understand the factors influencing satisfaction with OT services.

References

1. Yadav, S. (2024). Enhancing research integrity and publication ethics: An analysis of the latest international committee of medical journal editors recommendations. *Cureus*, *16*(3).
2. World Health Organization. (2023). *Assessing national capacity for the prevention and control of noncommunicable diseases: report of the 2021 global survey*. World Health Organization.
3. Farooq, S., Khan, T., Zaheer, S., & Shafique, K. (2019). Prevalence of anxiety and depressive symptoms and their association with multimorbidity and demographic factors: a community-based, cross-sectional survey in Karachi, Pakistan. *BMJ open*, *9*(11), e029315.
4. Nafees, A. A., Khan, A. A., Rabbani, U., Zahidie, A., Haq, R. U., Irfan, M., & Amaral, A. (2025). Prevalence and factors associated with respiratory symptoms in an urban population: findings from BOLD study in Karachi, Pakistan. *Discover Medicine*, *2*(1), 194.
5. Nahin, K. S. A., & Jannatul, T. (2025). Risk factors for non-communicable diseases among Bangladeshi adults: an application of generalised linear mixed model on multilevel demographic and health survey data. *BMJ open*, *15*(3), e082952.
6. Von Elm, E. (2007). STROBE initiative. The strengthening the reporting of observational studies in epidemiology (STROBE) statement: guidelines for reporting observational studies. *Ann Intern Med*, *147*, 573-577.
7. Vandenbroucke, J. P., Von Elm, E., Altman, D. G., Gøtzsche, P. C., Mulrow, C. D., Pocock, S. J., ... & Strobe Initiative. (2014). Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *International journal of surgery*, *12*(12), 1500-1524.
8. Von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., & Vandenbroucke, J. P. (2007). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *The lancet*, *370*(9596), 1453-1457.
9. Wang, X., & Cheng, Z. (2020). Cross-sectional studies: strengths, weaknesses, and recommendations. *Chest*, *158*(1), S65-S71.

10. Sullivan, K. M., Dean, M. A., Soe, M. M., & Mctm, M. (2014). An introduction to OpenEpi. *An Introduction to OpenEpi*.
11. Alsaad, S. M., Almuhaideb, A. A., Alswailem, A., Jansen, M. P., AbuDujain, N. M., Alsadhan, K. F., ... & Almigbal, T. H. (2025, October). Development and Validation of the Arabic Short Assessment of Patient Satisfaction (Ar-SAPS) in General Practice Clinics of a Tertiary Academic Hospital. In *Healthcare* (Vol. 13, No. 19, p. 2505). MDPI.
12. Alhasan, M. S., Alahmadi, I. M., Alhilali, H. F., Alyoubi, N. M., Alkhoriji, N. A., Aljazairi, A. M., ... & Alhasan, A. S. (2025). Determinants of patient satisfaction among outpatients with chronic illnesses in the region of medina, Saudi Arabia: a cross-sectional study. *BMC Health Services Research*, *25*(1), 953.
13. World Medical Association. (2025). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human participants. *Jama*, *333*(1), 71-74.
14. Freeman, A., Brandis, S., Naidoo, D., Donnelly, C., Fong, K. N., Johansson, E., ... & World Federation of Occupational Therapists. (2025). A global profile of occupational therapy and primary care: Results from the World Federation of Occupational Therapists survey. *Hong Kong Journal of Occupational Therapy*, *38*(1), 41-49.
15. Tyminski, Q. P., Nguyen, A., & Taff, S. D. (2019). Proposing a metacurriculum for occupational therapy education in 2025 and beyond. *Journal of occupational therapy education*, *3*(4), 4.
16. Ferreira, D. C., Vieira, I., Pedro, M. I., Caldas, P., & Varela, M. (2023, February). Patient satisfaction with healthcare services and the techniques used for its assessment: a systematic literature review and a bibliometric analysis. In *Healthcare* (Vol. 11, No. 5, p. 639). Mdpi.
17. Keith, R. A. (1998). Patient satisfaction and rehabilitation services. *Archives of physical medicine and rehabilitation*, *79*(9), 1122-1128.
18. Hawthorne, G., Sansoni, J., Hayes, L., Marosszeky, N., & Sansoni, E. (2014). Measuring patient satisfaction with health care treatment using the Short

Assessment of Patient Satisfaction measure delivered superior and robust satisfaction estimates. *Journal of clinical epidemiology*, *67*(5), 527-537.

19. Marshall, G. N., & Hays, R. D. (1994). *The patient satisfaction questionnaire short-form (PSQ-18)* (Vol. 7865). Santa Monica, CA: Rand.
20. Joshi, V. V., Dev, R., & Tripathy, N. K. (2021). Patient satisfaction survey: a gateway to quality improvement in primary healthcare in the IAF. *Indian Journal of Aerospace Medicine*, *65*(2), 105-108.
21. Rumi, Maruf Hasan, Niaz Makhdum, Md Harunur Rashid, and Abdul Muyeed. "Gender differences in service quality of upazila health complex in Bangladesh." *Journal of Patient Experience* 8 (2021): 23743735211008304..
22. Elliott, M. N., Lehrman, W. G., Beckett, M. K., Goldstein, E., Hambarsoomian, K., & Giordano, L. A. (2012). Gender differences in patients' perceptions of inpatient care. *Health services research*, *47*(4), 1482-1501.23.
23. Wang, X., & Cheng, Z. (2020). Cross-sectional studies: strengths, weaknesses, and recommendations. *Chest*, *158*(1), S65-S71.