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**ORIGINAL ARTICLE**

# Assessment of referrals to an OT consultation-liaison service: a retrospective and comparative study

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**Abstract**

The objective was to conduct a retrospective and comparative study of the requests for consultation-liaison (RCLs), during a period of six years, sent to the Occupational Therapy (OT) team that acts as the Consultation-liaison Service in Mental Health. During the studied period 709 RCLs were made and 633 patients received OT consultations. The comparison group was extended to 1 129 consecutive referrals to the psychiatric CL service, within the same period and that were also retrospectively reviewed. Regarding to RCLs to the OT team, most of the subjects were women with incomplete elementary schooling, with a mean age of 39.2 years, and were self-employed or retired. Internal Medicine was responsible for most of the RCLs. The mean length of hospitalization was 51 days and the mean rate of referral was 0.5%, with the most frequent reason for the request being related to the emotional aspects and the most frequent psychiatric diagnosis was mood disorder. It is concluded that there is a clear demand for the development of consultation-liaison in OT, particularly with regard to the promotion of mental health in general hospitals.

**Key words:** *occupational therapy, psychiatric social service, referral and consultation*

## Introduction

Mental health consultation-liaison services (MHCLS) have gained recognition as an area of special interest among mental health professionals concerned with clinical assistance and research in general hospitals (1,2). While liaison mental health is considered to be an area that works within the general hospital as a part of a multidisciplinary team, consultation assists a referral team when required. MHCLS were developed based on the increasing evidence that illnesses with biophysical origins often have psycho-social consequences and that they contribute significantly to the quality of medical care (3).

Although consultation-liaison services were initially planned for psychiatric assistance, they are now well developed among other disciplines including psychology and nursing (4,5). However, the development of consultation-liaison in occupational therapy has been less well established and, despite the highlighted benefits of such services, there are very few studies published in this field.

Watson (6) studied the role of the occupational therapist at the psychiatric consultation-liaison service

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at Rush-Presbyterian – St Luke's Medical Center. The author described the major objectives of treatment by the occupational therapist in that context as being: (a) provide opportunities that reinforce the patient's sensation of autonomy; (b) reduce emotional distress; (c) foster psychological capacity; (d) help maintain or set up a social support network for the patient. In addition, the author presented the intervention performed by the OT with patients who developed depression secondary to a physical disease.

For example, in a case report, Ibramovich (7) describes the work of the occupational therapist with patients admitted to the psychiatric ward of an Israeli hospital. The author reported the relationship between a physical illness (multiple sclerosis) and a mental disorder (depression) and the dilemma faced by the OT professional when he/she realizes that the patient's needs do not correspond to the policy adopted by the hospital.

According to Morais (8), consultation-liaison in OT focused on the general hospital is the therapeutic assistance that contributes to the creation of healthy spaces, expanding the decreased initiative often presented by the patient and helping resume his/her disrupted everyday life, thus stimulating the process of social inclusion.

There are very few specialized OT mental health consultation-liaison services in general hospitals, which usually operate in academic centers with a full-time staff assigned specifically to the care of general hospital inpatients. Therefore, the main purpose of our study was to describe the development of a CL-OT service in a Brazilian general hospital and to analyze the patterns of referral, intervention, and demographic and diagnostic characteristics of inpatients referred for OT consultation, during a period of six years. We also aimed to compare the population consulted by the OT with that consulted by the psychiatry service and the population admitted to the hospital in the same period.



## Material and methods

### *Development of OT in the MHCLS of the University Hospital of Ribeirão Preto Medical School*

The psychiatric CL service started in 1978, being one of the first in existence in Brazil. In 1998 the service incorporated psychologists, which enabled the expansion of the CL service activities. The OT started to work in this service in 1999 (9). The psychiatric CL changed its name to the Mental Health Consultation-liaison Service (MHCLS) of the University Hospital of Ribeirão Preto Medical School (UHRPMS) in 2005.

The occupational therapy consultation-liaison work starts with the receipt of the consultation-liaison request (CR), by means of a specific form, from several clinics of the UHRPMS unit, as well as from the other services of the MHCLS – Psychiatry and Psychology. However, the occupational therapy service of the MHCLS could be requested to help in the management of cases with psychiatric comorbidities and different hospitalization managements needs (adaptation and family follow-up situations, among others).

The occupational therapist offers the patient health spaces in which his/her everyday life may take place. This process first happens within a triadic relationship (patient–therapist–activity) and, when possible, is expanded to further relationships contributing to the subject's social inclusion (10).

### *Sample*

The study comprised 709 consecutive new referrals (of 633 patients) that were provided by the OTCL service, between 1 January 2000, and 31 December 2005, which were all retrospectively reviewed. For these general hospital patients, uniform statistical forms covering the main demographic characteristics, main psychiatric diagnoses according to ICD-10 (11), referring departments, total length of hospitalization, length between hospitalization and CL referral, length between referral and CL response, number of consultations performed by the OT and referral rates, and principal reasons for referral were completed by the staff occupational therapists. This form was based on the protocol of the Portuguese Psychiatry Group (12).

The rate of referral to OT was calculated taking the number of admissions to hospital in relation to the total number of CRs sent to the OT in the period considered in this study. Since the MHCLS is a consultancy service, the clinics that had occupational therapists in this period were also included in the study.

The comparison group was extended to over 1 129 consecutive referrals to the psychiatric CL service, within the same period and that were also retrospectively reviewed by using the same above-mentioned statistical form. Both groups of general hospital patients had been referred to the mental health CL service from the departments of the UHRPMS, University of São Paulo, Brazil. The present study was only carried out in the '*campus*' unit, where our mental health CL service is situated. This unit is a 610-bed general hospital. The number of admissions during the period of this study was 130 637.

The data from the present study were analyzed with the program SAS/START®, version 9.0 (SAS Institute Inc.). The prevalence of the variables was estimated by means of simple percentages. The associations between categorical data were subjected to Fisher's exact test, with a significance level of $p < 0.05$. The study was approved by the local ethical committee (HCRP n° 14379/2005).

## Results

### *Demographic characteristics*

Most of the individuals who had OT consultations were female (59.4%), with incomplete elementary education, and the distribution of single and married subjects was balanced. Regarding professional activities, most patients were autonomous workers or had already retired, followed by housewives and students. It is worth mentioning that this variable could not be assessed in around one-third of the patients. The mean age was 39.2 years (SD ± 21).Most patients admitted to the UHRPMS in the same period (56.7%), regardless of having been referred to the OT team, were women (59.4%), as for Psychiatry (61.5%).

### *Clinic characteristics*

*Referring clinics.* The distribution of requests to the Occupational Therapy and Psychiatry services by the several UHRPMS clinics is given in detail in Table I.

The table shows that the General Clinic accounted for over a third of all consultation-liaison requests, followed by the Metabolic Unit and Psychiatry, respectively. Less than 1% (n = 6) of the CRs did not present any identification of the requesting clinic.

Most CRs to the OT and Psychiatry services of the MHCLS came from the General Clinic, followed by the Metabolic Unit for the OT service and by the "other" category for Psychiatry.

*Psychiatric diagnosis.* Only 76 (10.7%) of the CRs forwarded for OT consultation-liaison contained at least one psychiatric diagnosis (Table II). Of those, 15 (1.8%) CRs contained more than one psychiatric diagnosis.

The most frequent diagnosis was that of mood affective disorder, followed by neurotic and somatoform disorders, and by personality and behavioral disorders.

*Number of days of hospitalization.* The patients referred to OT had an average hospital stay of 51 days (SD ±69), while the mean hospitalization time at the UHRPMS is only 6.4 days. Therefore, approximately half of the patients were hospitalized for over 50 days, few of the cases forwarded staying at the hospital for less than 10 days.

In relation to the predominance of women seen by the OT service, it was thought that this could be a result of their staying in hospital for longer periods, but the association between the period of hospitalization and the gender of the participants did not prove significant ($p = 0.19$).

*Time elapsed between hospitalization and referral request.* Over a third of the CRs (n = 271) did not give the date of their fulfillment, rendering it impossible to calculate the time elapsed between the admission of the patient and the fulfillment of the CR in these cases. Among those that contained this information (n = 438), one-third (n = 138, 31.5%) were filed five days after admission. Those CRs that were completed between five and 10 and between 10 and 20 days after the date of admission had a similar distribution (approximately 17% for each interval). However, the mean time was 21.8 days (SD = ± 38.4), which shows an important variability between the admission and the fulfillment of the requests for the MHCLS's OT service.

Table I. Requesting clinics for the occupational therapy (OT) and psychiatry (PQU) services in the period between 2000 and 2005.

| Requesting clinic | OT n = 709 (%) | PQU n = 1129 (%) |
|---|---|---|
| General Clinic[a] | 268 (37.8) | 359 (32) |
| Metabolic Unit | 117 (16.5) | 111 (9.8) |
| Psychiatry | 75 (10.5) | — |
| Pediatrics | 63 (9) | 59 (5.2) |
| Renal Transplantation Unit (RTU) | 56 (8) | 62 (5.5) |
| "Other"[b,c] | 25 (3.5) | 219 (19.4) |
| Surgery | 25 (3.5) | 109 (9.6) |
| Intensive Care Unit (ICU) | 24 (3.4) | 19 (1.7) |
| Bone Narrow Transplantation (BMT) | 24 (3.4) | 15 (1.3) |
| Special Unit for the Treatment of Infectious Diseases | 18 (2.5) | 60 (5.3) |
| Infecto-contagious Diseases (ID) | 8 (1.1) | 105 (9.3) |
| Unidentified | 6 (0.8) | 11 (1) |

Notes: [a]Hematology, Dermatology, Immunology, Endocrinology, Gastroenterology, Pulmonology, Cardiology, Geriatrics and Rheumatology. [b]OT requesting clinics: Gynecology/Obstetrics, Orthopedics, Neurology, Nursery, Ophthalmology, Otorhinolaryngology and Coronary Unit. [c]PQU requesting clinics: Pain Clinic, Gynecology/Obstetrics, Orthopedics, Neurology, Otorhinolaryngology, Nursery, Ophthalmology, Social Services and OT.

Table II. Psychiatric diagnoses among the CRs sent to the OT service between 2000 and 2005.

| ICD-10/Psychiatric diagnoses | n = 76 (%) |
|---|---|
| F3 Mood disorders (affective) | 33 (43.4) |
| F4 Neurotic and somatoform disorders | 20 (26.3) |
| F6 Personality and behavioral disorders | 12 (15.8) |
| F2 Schizophrenia, schizotypal, and delusional disorders | 7 (9.2) |
| F0 Organic mental disorders | 2 (2.6) |
| F1 Disorders due to the use of psychoactive substances | 1 (1.3) |
| F5 Behavioral syndromes associated with physiological disturbances and physical factors | 1 (1.3) |



*Referral rate.* The mean referral rate during the whole period considered for the MHCLS's OT service was 0.5%, while the rate for the psychiatric service was 0.8%. When the annual referral rate is considered, the data show that the patients were more often referred to Psychiatry than to OT for all years, except for the year 2000, when the referral rate was the same.

*Reasons for referral.* Seven hundred and forty-six reasons for referral to the MHCLS's OT service were found, 37 (5%) of the CRs presenting more than one reason. Most of them were related to individuals' emotional aspects (n = 255; 34%), followed by factors concerning hospitalization (n = 171; 23%). Some 11% (n = 86) were categorized as "others" (including the making of orthoses, aid for daily life activities, and neuropsychomotor stimulation, among others). It is important to highlight that around one-quarter of the CRs (n = 197) lacked a description of the reasons leading to the request for OT consultations.

## Discussion

To the best of our knowledge, this is the first systematic descriptive study of an OT inpatient consultation-liaison service. In our hospital it is well developed, established 10 years ago, and could be referred to as "university equipped" as part of a multidisciplinary team and organized along the lines of the standard model comparable to classic psychiatric CL services.

Most individuals referred to the OT service of the MHCLS were women, which is consonant with most studies on psychiatric CL developed in the Brazilian (13,14) and international contexts (15–20).

This predominance may reflect the greater number of women admitted to the UHRPMS (approximately 60%); or may be related to the main reason for requesting consultation-liaison services in general and OT consultation-liaison in particular (emotional aspects of the patient), which corresponds to the request based on complaints or psychiatric diagnoses. Therefore, as the main psychiatric diagnoses frequently observed in patients seen for consultation by psychiatric consultation-liaison services are depression and adjustment reactions, disorders that are more frequent among women (21–23), this could explain the fact that most people referred to the OT service were female.

Another possibility is that the patients referred to the psychiatric consultation-liaison service suffer from somatic diseases associated with psychosocial impairment, which constantly requires greater medical care (19) and, in general, women are more capable of expressing their desire to receive help, more capable of communicating their difficulties in psychological terms, and more capable of manifesting their anxiety in an open manner. In the Brazilian context, this fact may be related to cultural aspects that attribute such behaviors to the female sex, and those aspects influence the patient, the staff, and requesting professionals as well (24), in particular OTs. There are, however, inconsistencies regarding the relationship between patient referrals and gender (25–28).

In relation to the marital status of the patients seen for consultation by the MHCLS's OT service there was a practically equal distribution between married and single persons. In some studies performed in this context (27,29) there was a predominance of singles, while other studies showed that most of the population consulted by the psychiatric consultation-liaison service were married (13,14,16,19,28).

The medical records and consultation-liaison requests (CRs) of most subjects did not provide information on education and/or professional situation. The same absence was verified in almost all retrospective studies on psychiatric consultation-liaison (14,16–20,25,26,28,30–35). This fact hindered a more complete and accurate characterization of the population served by such services.

In spite of the lack of information on the education of approximately half of the patients, in most CRs in which these data were available the subjects had incomplete elementary education, that is, less than eight years of school experience. The same result was found in the study performed in Brazil by Souza (29). It is worth mentioning that the UHRPMS is a hospital linked to the public health system. In fact, it has virtually no private patients or patients with private health coverage; its clientele consists mainly of people

from a lower socioeconomic level, a fact that is usually directly related to educational level.

Among the CRs containing information on the professional situation, the category "other", which encompasses autonomous and retired workers, was the most frequent, along with housewives. Other national studies have also shown that these categories reveal some of the predominant professional situations among patients referred to psychiatric consultation-liaison services (27,29).

The predominant age range of the population consulted by the OT service was 16 to 45 years. The same was true for the patients consulted by the psychiatric service of the MHCLS, which is consonant with results from previous studies (13,14,16, 19,26,28–30,36).

Some hypotheses can explain this fact: (a) young adults have a stronger tendency to display so-called abnormal emotions in the occurrence of a disease and its treatment; (b) young people may be better at establishing rapport with doctors who are also young (37), many of whom are still in training (e.g. residents); and (c) there is greater accessibility of this population to hospital when they get sick. Another possibility could be the under-treatment and under-assistance of emotional factors in geriatric patients. This may also occur due to this population's communication skills difficulties and requests for MH care.

One further explanation is that most people seen for consultation by the psychiatric consultation-liaison service may represent the major part of the general population (30). This last hypothesis refers to the differences in population distribution in terms of age range in different countries, a factor to be considered when analyzing the reality of the service studied.

Hence, the data compiled in this study might reflect the reality of the majority of the Brazilian population (51.3%) aged between 20 and 59 years, or indeed they may simply represent the population attended by the UHRPMS, where most patients (58.6%) are between 16 and 60 years old.

Clinical areas were responsible for referring most patients to the OT service, the same being true for the psychiatric service of the MHCLS. This is consonant with the results of several studies on psychiatric consultation-liaison (13,14,16,18,19,28,30,33–35), which have consistently shown that other areas tend to request fewer consultations.

The hypotheses raised in order to explain this fact are: (a) surgeons are not so attentive to the patients' psychological aspects (19,28,34); (b) clinicians deal with diseases that may be more closely related to psychiatric conditions (30,34); and lastly, (c) the high referral rate by the general clinic may indicate the greater proximity of Psychiatry to this medical area and, therefore, greater knowledge of the psychiatric consultation-liaison service on the part of the faculty, residents, and students in this area of expertise (14).

Different specialties were grouped together under the name General Clinic in this study (for example: Hematology, Dermatology, Cardiology), thus it encompasses a greater number of beds at the UHRPMS, which may explain the high number of CRs by this clinic to the OT team. Another possibility pointed out by Spinelli et al. (28) in a study on psychiatry consultation-liaison services, considering the characteristics of the pathologies treated at a general inpatient clinic, is that these patients generally have a long hospitalization period, which enables the clinicians to be in contact with the manifestation in their patients of symptoms and psychiatric disorders. It is noteworthy that psychiatric symptoms/disorders were the main referral reasons in the CRs for OT, thus increasing the requests and receptivity by the petitioner to the specialists of the MHCLS.

There are several limitations of this study that should be highlighted. First, it was performed in an urban, tertiary, university-based hospital setting with active psychiatric and OT consultation services; therefore, data cannot be generalized to other settings. Additionally, the study was restricted to inpatients for whom formal OT and psychiatric consultation was requested, and thus the results are likely to refer only to those patients with the most severe disorders. Moreover, only those psychiatric diagnoses made by the psychiatrists who assessed the patients were considered in this study. No structured clinical interviews such as the CIDI (38) or SCID (39) were performed to corroborate the diagnostic assessments, a fact that restricts the validity and reliability of the diagnoses found. In addition, only around 10% of the CRs sent to the OT service of the MHCLS presented at least one record of a psychiatric diagnosis, which further limits the generalization of these results. Finally, patients were not followed up after discharge, and thus psychiatric and medical outcomes could not be assessed.

Among the CRs sent to the OT service, mood disorder (affective) was the diagnosis in 43.4% of cases. This is consonant with previous studies in different contexts (13,14,16,18,20,29,33,34,40). Therefore, regardless of the understanding of depression as leading to a clinical condition or being a consequence of hospitalization, it is the most frequent diagnosis presented by hospitalized patients and may have an influence on the referral of these cases to the OT service, since the emotional aspects of the patient were the main reason for referral to this service.

The mean hospitalization time among the patients referred to the OT service was 51 days, approximately

eight times more than the average hospitalization time of the other patients in the same hospital. This is in accordance with the results of previous studies in Brazil (41) and in other countries (17).

Long hospitalization periods may be related to the characteristics of our hospital, which is a tertiary care unit, and may thus facilitate the appearance of emotional manifestations and difficulties of adaptation to the hospital routine. This could justify the main referral reasons for OT consultations (patients' emotional aspects and hospitalization), since such hospitalizations result in the organization of daily life depending on the wait for examination results, on the end of the administration of adequate medicines, or even on absolute rest, thus favoring the emergence of symptoms and psychiatric manifestations such as anxiety and depression.

A study by Kishi et al. (19) in the USA, aimed at reexamining the factors that affect the timing of a request for psychiatric consultation and the length of hospitalization, showed that a delay in request is related to longer hospitalization periods. However, the authors were unable to state that a quick request reduces the patient's hospitalization period. Therefore, it is not possible to conclude that the intervention performed by the psychiatric consultation-liaison service has any effects on the length of hospitalization in the general hospital (42).

The absence of CR fulfillment date is one of the methodological difficulties in assessing the efficiency and efficacy of the psychiatric consultation-liaison service, since it becomes impossible to calculate the time elapsed between the patient's admission and the request for the service (43). This limitation was also found in the present study, in which about 40% of the CRs for the OT service did not present the necessary dates for the estimation of this interval.

The mean referral rate for the MHCLS's OT service was 0.5%, which is similar to that in developing countries for psychiatric consultation-liaison services, that is between 1% and 2.5% of the patients admitted to a general hospital, but far from US rates, which are approximately 4% (24).

The OT consultation-liaison service is recent in Brazil as compared with that of psychiatric consultation-liaison, initiated over 20 years ago, a fact that might explain the difference in the number of referrals. However, a survey on studies of psychiatric consultation-liaison in 10 different countries, most of them in Brazil, showed that the referral rates ranged from 0.48 to 3.6%, which brings the findings of our study even closer to the Brazilian context, for both the psychiatric consultation-liaison service (approximately 1%) and the OT service (0.5%). It is especially important because the service has only recently been developed and still requires greater dissemination.

Similarly, a number of national and international studies show that the reasons for referral to the psychiatric consultation-liaison service are essentially based on the diagnosis or psychiatric symptoms presented by the patients (19,20,26,29,34,36), which also occurred in the MHCLS's OT service, whose main reason for referral was "emotional aspects of the patient" (34%).

In addition to the previously mentioned limitations of the present study, others are worth mentioning: (a) the fact that this is a retrospective study, which rendered it impossible to make a more accurate description of the population and a better assessment of the efficacy and efficiency of the MHCLS's OT service by the application of instruments and interviews with the patients consulted; (b) the data were not collected by means of standardized instruments and some variables did not have a defined standard (for example, "what do you expect from the request", the "occupational therapeutic diagnosis", the "treatment plan"), thus preventing these data from being analyzed. Future research in this area should include a formal standardized documentation system (44) to allow the systematic collection of clinical data according to a set of predefined variables, such as the Patient Registration Form (PRF) (45), the PRISMe (46) or the computerized CL psychiatric/OT database MICRO-CARES (47).

## Conclusion

Our study demonstrates that most of the patients referred to the OT consultation-liaison service were women with a low level of schooling, a mean age of about 40 years, and the status of being self-employed or retired. Internal Medicine was responsible for most of the CRs and the mean rate of referral was 0.5%, with the most frequent reason for the request being related to emotional aspects and the most frequent psychiatric diagnosis being mood disorder. We thus conclude that there is a clear demand for the development of consultation-liaison in OT, particularly with regard to the promotion of mental health in general hospitals. Further prospective studies on this topic to assess the efficacy, efficiency, and advantages of this way of working in OT consultation-liaison services are necessary and apt.

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