

EVALUATING PATIENTS' NEEDS AMONG REHABILITATION SETTING

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Original scientific paper

King Fahd Medical City

Received: 23.05.2015.

UDC: 614.253.8:159.9

Accepted: 27.07.2015.

005.62:614.2

ABSTRACT

Patient's needs have been found to be crucial to the success of rehabilitation and recovery. To understand what patients want from their rehabilitation services should be addressed in the rehabilitation intervention. This study aims to examine patients' needs for rehabilitation services as well as to examine the validity of a self-report questionnaire that developed to measure what patient needs from rehabilitation services in Saudi Arabia. Two hundreds-eighty patients, from inpatients and outpatients, with stroke, spinal cord and brain injury completed the Patient's Needs Questionnaire (PNQ). In general, the result showed that patients are in highly needs for Psychological Interventions, even before Rehabilitation and Treatment component. In detail, Psychological Intervention and Emotional Support were significantly greater in inpatients than in outpatients. Outpatients, in contrast, affirmed the Religious Support component significantly more than inpatients did. The statistical analysis of PNQ yielded four components: psychological interventions, rehabilitation and treatment, religious support, and explanation/reassurance. These components accounted for 48.71% of the total variances. Rehabilitation services is not only the component of rehabilitation intervention and medical treatments, indeed, it is a holistic intervention that understand the psychological, religious, and reassurance demands. The health provider in Saudi Arabia should develop a rehabilitation goal menu based on patient-centred care needs. The PNQ is a valuable and practical tool for the identification of patients' needs from rehabilitation services.

Keywords: *rehabilitation; patient expectation; patient satisfaction; outcome assessment; rehabilitation psychology.*

INTRODUCTION

The concept of patients' needs is gaining recognition as a main guidance of how well health services are performing (Kramer, 1997). It provides an indicator for possible further service for patients (Cleary, 1999). The need for specific rehabilitation service is particularly relevant when trying to make rehabilitation services more responsive to patients' needs. However, investigation into patients' needs toward rehabilitation services is limited, and several questions remain unanswered (Keith, 1998), and rarely examined (Ware, Phillips, Yody and Adamczyk, 1996). Patient needs are essential to the improvement and success of rehabilitation and will serve as a guide in learning new rehabilitation skills (Keith, 1998); (Ottenbacher, Gonzales,

Smith, Illig, Fiedler and Granger, 2001).

The evaluation of patients' needs is a complex process (Ottenbacher, Gonzales, Smith, Illig, Fiedler and Granger, 2001). This complexity can be more obvious at rehabilitation services with multidisciplinary teams who provide patients a broad variety of rehabilitation services. Patients' needs, as they relate to rehabilitation services, partially reflect the patients' beliefs about rehabilitation service and service providers (Keith, 1998).

King Fahd Medical City-Rehab Hospital (KFMC-RH) is a tertiary hospital, which provides rehabilitation services to a variety of rehabilitative inpatients and outpatients with injuries such as brain, spinal cord and stroke.

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Rehabilitation services at KFMC-RH include physiotherapy, psychological therapy, occupational therapy, speech therapy, educational interventions, vocational therapy, art therapy, social interventions and nurses' services. The Commission on Accreditation of Rehabilitation Facilities (CARF) has accredited KFMC-RH as a comprehensive integrated inpatient rehabilitation program. CARF has identified patients' needs as an important measure of program quality and has suggested that patients should be involved in decision-making and in establishing rehabilitation goals (CARF, 1994). Accordingly, rehabilitation services are seeking ways to systematically evaluate patients' needs in order to continue investigating future requirements for rehabilitation services (Ottenbacher, Gonzales, Smith, Illig, Fiedler and Granger, 2001). Several research studies called for the wider use of measures of patients' needs among rehabilitation services (Seale and Davies, 1987).

Patients' needs play a significant part in the success of remedial rehabilitation and researches on this theme are required and recommended (Meng, Zdrahal-Urbaneck, Frank, Holderied and Vogel, 2006).

Previous studies investigated patients' needs, desires or satisfaction in a comparison between inpatients and outpatients (Berghofer, G., Lang, A., Henkel, H., Schmidl, F., Rudas, S., & Schmitz, M. (2001). Satisfaction of inpatients and outpatients with staff, environment, and other patients. *Psychiatric Services*, 52(1), 104-106); Krywulak, S. A., Mohtadi, N. G., Russell, M. L., & Sasyniuk, T. M. (2005). Patient satisfaction with inpatient versus outpatient reconstruction of the anterior cruciate ligament: a randomized clinical trial. *Canadian journal of surgery*, 48(3), 201; (Hansson, L., & Höglund, E. (1995). Patient satisfaction with psychiatric services: The development, reliability, and validity of two patient-satisfaction questionnaires for use in inpatient and outpatient setting. *Nordic Journal of Psychiatry*, 49(4), 257-262).

By making a comparison study between inpatients and outpatients' needs, the health provider will be able to develop a rehabilitation goal menu based on patient-centred care sounds.

Although Western research recognizes the importance of patients' needs, patients' needs among rehabilitation services in Saudi Arabia are not known.

Aim: This study was conducted for two purposes: the main aim is to understand and describe what patients' needs from their rehabilitation services, in comparison between inpatients and outpatients. The second purpose is to use the information to develop and examine the validity of a self-report questionnaire that could measure quantitatively what experiences that patients

have and what their needs from rehabilitation services.

METHOD

Sample and procedure

This study was conducted between February 2011 and March 2014, at KFMC-RH in Riyadh City, Saudi Arabia. Each patient participated in the study within at least one week of their stay in the rehabilitation unit at KFMC-RH, or at his arrival in outpatient rehabilitation services. Of the 410 patients who were invited to participate, 340 met the inclusion criteria and 280 agreed to participate. Each adult patient had to score as normal, cognitively, according to The Montreal Cognitive Assessment (MoCA). Otherwise, the study excluded that patient. The study also excluded patients under age 18. The 10 patients who were illiterate (4 males, 6 females), had the questionnaires read to them by the main researcher. For five quadriplegic patients, the questionnaires were mostly read by the patients themselves but their verbal answers were recorded in writing immediately by the main researcher. All participating patients signed a written informed consent. Verbal informed consent was documented from those patients who could not sign because of upper-extremity motor impairment.

Instruments

MoCA is a brief 30-item assessment, with a scoring range from 0 to 30. Scores of 26 and higher are classified as normal. MoCA is available for clinical use in 34 languages including Arabic. It evaluates different categories of cognitive abilities, including executive function, short-term memory, visual-spatial ability, orientation, and language ability (Nasreddine, Phillips, Bédirian, Charbonneau, Whitehead, Collin and Chertkow, 2005).

Patient's needs Questionnaire (PNQ) was developed to be used in local language. In the absence of a valid Arabic instrument for measuring rehabilitation patients' needs, development of this instrument was based on literature review (Thorsen, Gjerset, Loge, Kiserud, Skovlund, Flotten and Fossa, 2011); (Mondloch, Cole, and Frank, 2001, as well as a previously validated instrument that has been used with patients at health care institutions (Salmon and Quine, 1989); (Robinson, Brown, George, Edward, Atchison, Hirsh and Fillingham, 2005). Afterward, 23 interviewed rehabilitation patients were asked to express their needs about the rehabilitation services. Based on frequency, themes and items were developed.

Then, a panel of seven experts; two academic staff members at a department of psychology, King Khalid University, and five experts on rehabilitative therapy from KFMC-RH, studied it. Each was asked to comment on each item's appropriateness and acceptability. Experts were asked to be sure to report patients' needs rather than reporting objectives or optimal rehabilitation services that should be provided. Questionnaire was piloted and modifications made accordingly. Reliability tested using Cronbach's Alpha coefficients were 0.91, 0.85, 0.81 and 0.77 for the factors of "Rehabilitation and Treatment", "Psychological Interventions", "Explanation and Reassurance" and "Religious Support", respectively.

Statistical analysis

Data analyses occurred through the Statistical Pack-

age for the Social Sciences (SPSS). Cronbach's Alpha tested the reliability of scale. Chi-square test "x²" and ANOVA "F" test were applied to invest differences between demographic characteristics of the sample.

An initial principal components analysis using the correlation matrix suggested a factor structure. A scree test assisted in deciding the number of factors to retain for Varimax rotation. Loadings exceeding 0.40 were used to interpret components. Scores were generally skewed and non-parametric. Mann-Whitney-tests (U. Test) examined the differences between outpatients and inpatients.

RESULTS

The final sample included 280 rehabilitative patients of whom 171 were inpatients and 109 outpatients (see Table 1).

Table 1. Demographic characteristics for entire sample of rehabilitation patients

Demographic characteristics		N	Percent	Significance Tests
Sex	Male	193	68.93	3.45 (.109)
	Female	87	31.07	
Age^a	18-35	184	65.71	6.83 (.089)
	36 or over	96	34.29	
Rehabilitation Services	Inpatients	171	61.07	8.55 (.066)
	Outpatients	109	38.93	
Marital state	Married	172	61.43	1.76 (.215)
	Others	108	38.57	
Education	Less educated ^b	73	26.07	8.83 (.059)
	More educated ^c	207	73.93	
Occupation	Employed	213	76.07	2.04 (.179)
	Unemployed	67	23.93	
Diagnosis	Stroke	104	37.14	F3.81 (.203)
	Spinal cord	138	49.29	
	Brain injury	27	09.64	
	Other (ie., Amputation, Multiple sclerosis)	11	03.93	

^a Mean, SD: 31.50, 12.80.

^b Holding a high school certificate or its equivalent or less.

^c Holding any bachelor's degree or higher.

There were no significant differences in the inpatients and out patients regarding sex, age, marital

state, education and occupation.

The principal components analysis yielded four the total variances. components (Table 2), accounting for 48.71% of

Table 2. Principal component analysis of responses to the PNQ. Items loading more than 0.40 shown.

Items	Component			
	Psychological Intervention	Rehabilitation Treatment	Religious Support	Explanation/ Reassurance
Psychological Interventions				
I want the doctor to explain my psychological problems.	.54			
I would feel better if I could talk about some of my personal needs and feelings.	.54			
I have psychological changes for which I would like help.	.53			
I want a support group to share my needs and experiences	.51		.41	
I want someone to comfort me at this difficult time.	.48		.42	
Rehabilitation and Treatment				
I want advice on a drug I am taking.		.51		
I want to learn more about my rehabilitation intervention.		.49		
I want to be sure that nothing is wrong with my rehabilitation plan of treatment.		.46		
I want the doctor to explain all the medical test results.		.43		
I want my rehabilitation plan to train me adequately for the discharge stage.		.43		
I want the doctor to explain the rehabilitation treatment I am receiving.		.43		
I want the plan of rehabilitative interventions to take into account my own needs.		.42		
I want to know how quickly I will get over this rehabilitation stage.		.41		
Religious support				
I need somebody to support my faith at this time.	.45		.68	
I want somebody to read the Qur'an with me at the rehabilitation interventions.	.42		.58	
I need a religious person to help my faith and to understand why this medical problem occurred.			.44	
I want to perform religious or spiritual rituals in a group of patients with similar problems.			.42	.40
Explanation/ reassurance				
I want the doctor to explain how serious my problem is.				.67
I want to know about possible side effects of my problem.		.41		.66
I want to know about my sexual abilities.				.57
I want to know if I am likely to have further problems in the future.				.55
I would like the doctor to tell me what my symptoms mean.				.43

The psychological interventions component accounted for 23.24% of the total variance (table 3).

Table 3. Main components of patients' needs in order of percentage of explained variance (48.71%)

Factor number	Component	Number of items	Percentage of explained variance (%)
1	Psychological Interventions	5	23.24
2	Rehabilitation and Treatment	8	11.91
3	Religious Support	4	8.36
2	Explanation/Reassurance	5	5.20

“Psychological Interventions” represented patient needs for psychological services and emotional support. A second component, labelled "Rehabilitation and Treatment", classified patient expectations regarding rehabilitation services, such as explaining the rehabilitation treatment and the plan of treatments. The third component, labelled "Religious Support", represented patient demands for spiritual help such as reading the Qur'an and needing a spiritual person with whom to pray. The fourth component was "Explanation/Reassurance", and represented patient requests for understanding their problems or to be reassured. Eleven items, loading less than .40, were deleted.

Table 4 shows the comparison of expectations between outpatients and inpatients. Inpatients af-

firmed the Psychological Intervention component significantly more than outpatients did. On the other hand, outpatients affirmed the Religious Support component significantly more than inpatients did. However, there were no significant differences between inpatients and outpatients regarding the Rehabilitation and Treatment component and the Explanation and Reassurance component. Outpatients reported their needs for “Rehabilitation and Treatment”, “Religious Support”, “Explanation and Reassurance”, “Psychological Interventions”, respectively. Inpatients, on the other hand, reported their needs for “Rehabilitation and Treatment”, “Psychological Interventions”, “Religious Support”, “Explanation and Reassurance”, respectively.

Table 4. Comparison of the four components of the expectations questionnaire Medians, Standard Deviations (SD) and Mann-Whitney (U-Test) compare Outpatients and Inpatient

Components	Outpatients		Inpatients		Mann-Whitney
	Median	SD	Median	SD	U- test
Rehabilitation and Treatment	23.0	4.3	25.5	4.3	5711.5 (.329)
Religious Support	18.8	3.7	15.0	4.8	4523.5 (.001)
Explanation/ Reassurance	14.0	2.9	14.0	3.1	5981.0 (.685)
Psychological Interventions	11.8	4.9	16.5	3.6	4701.5 (.002)

DISCUSSION

As mentioned previously, there is no Arabic study into patients' needs and expectations. Also there was no specific standard tool in Arabic to assess patients' needs. This is possibly due to the ambiguity of the concept of patients' needs (Salmon and Quine (1989) or, more likely, it could be the result of the absence of a suitable way to measure patients' needs (Valori, Woloshynowych, Bellenger, Aluvihare, and Salmon, 1996), especially in Saudi Arabia. Resent study in Saudi Arabia, using qualitative methods (Al-Haidary, Qannam and Lam, 2014), recommended to pay more attention toward understanding the rehabilitation goals from the perspective of patients. Providing the rehabilitation sitting in Saudi Arabia with quantitative instrument such as PNQ questionnaire will facilitate that ultimate goal to meet the patient's needs and to provide patient-centred rehabilitation services.

The principal components analysis yielded four components (Table 2), which could be resembled those reported in previous studies (Thorsen, Gjerset, Loge, Kiserud, Skovlund, Fløtten and Fossa, 2011) (Mondloch and Frank, 2001), but with some differences that could be explained culturally. The Religious Support component was one essential need that frequently reported by patients among rehabilitation sittings in the current results. The Religious Support component was accounted for 8.36% of the common variance according to the principal components analysis. This distinct component could emphasize the value of religion among health care services in Saudi community (Alqahtani and Salmon, 2008), as well as Saudi rehabilitation sittings (Al-Haidary, Qannam and Lam, 2014).

The current finding confirmed that desire for Psychological Intervention and Emotional Support was significantly greater in inpatients than in outpatients. This result is linked to previous studies which reported that Psychological Intervention works effectively during inpatient rehabilitation (Kim, Heinemann, Bode, Sliwa and King, 2000). Outpatients, on the other hand, show their significant desire for Religious Support as compared with inpatients. One explanation is that the religious person reflects a strategy of coping with chronic diseases (Herrmann, Freyholdt, Fuchs and Wallech, 1997). Religion commonly plays a positive role in patients recovering from illness (Mackenzie, Rajagopal, Meibohm and Lavizzo-Mourey, 2000). It was reported in previous studies that religion support is important to patients in the early years after spinal cord injury and brain injury (McColl, Bickenbach, Johnston, Nishihama, Schumaker, Smith, Smith and Yealland, 2000).

Another explanation here is that the apparent failure of biomedicine to solve chronic medical conditions could lead to alternative intervention (Marks, Murray, Evans and Willig, 2000), including religious and spiritual support.

As a conclusion, this finding indicates the importance of knowing patients' needs at the rehabilitation sittings. The PNQ is a valid instrument that could be used in Saudi Arabia to detect patients' needs among rehabilitation sittings. As suggested in a previous study [25] (Salmon, Sharma, Valori and Bellenger, 1994), doctors frequently misperceive what patients want. Therefore, it is very important to clarify the concept of meeting patient needs to physicians who trained primarily in the biomedical model. Medical schools and continuous medical education should improve and develop physicians' skills to meet patient expectations (Anderson, Barbara and Feldman, 2007).

Limitation

The present study is not without limitations. Impairments in cognition can affect a patient's ability to completely participate in this study. A concern in rehabilitation is patients who are unable to complete the questionnaire due to cognitive deficits (Keith, 1998). However, their needs or their family's expectations bear investigation in the future, using an appropriate methodology and approach. Another limitation here should be mentioned, as there was no specific gold standard assessor in order to perform comparison with the existing results.

According to the principal components analysis, over half the variance remained unexplained. Future research in this area should include large samples to test whether additional components reliably identify themselves. Questionnaires answered by patients coming to the rehabilitation services cannot be considered as expressing the opinion of the other patients coming for different health services. Lastly, the current sample was collected from one rehabilitation setting, at KFMC-RH. Therefore, further investigations are needed.

ACKNOWLEDGEMENTS

Thanking to all of the patients who participated in this study. The author is grateful to the inpatient and outpatient clinic staffs, KFMC-RH, who helped in conducting this study.

Conflicts of interest

The author declares that this study has no conflicts of interest. No funding is declared.

REFERENCES

- Al-Haidary, H., Qannam, H., & Lam, T. (2014). Development of a rehabilitation goal menu for inpatients with neurological disorders: Application in a Saudi Arabian context. *Clinical rehabilitation*, 0269215514561877.
- Alqahtani, M. M., & Salmon, P. (2008). Cultural influences in the aetiological beliefs of Saudi Arabian primary care patients about their symptoms: the association of religious and psychological beliefs. *Journal of religion and health*, 47(3), 302-313.
- Anderson, R., Barbara, A., & Feldman, S. (2007). What patients want: A content analysis of key qualities that influence patient satisfaction. *J Med Pract Manage*, 22(5), 255-261.
- Berghofer, G., Lang, A., Henkel, H., Schmidl, F., Rudas, S., & Schmitz, M. (2001). Satisfaction of inpatients and outpatients with staff, environment, and other patients. *Psychiatric Services*, 52(1), 104-106.
- Cleary, Paul D. (1999). "The increasing importance of patient surveys: Now that sound methods exist, patient surveys can facilitate improvement." *BMJ: British Medical Journal* 319.7212: 720.
- Commission on Accreditation of Rehabilitation Facilities (CARF). (1994). *Standards Manual and Interpretive Guidelines for Organizations Serving People With Disabilities*. Tucson, Ariz: Commission on Accreditation of Rehabilitation Facilities.
- Hansson, L., & Höglund, E. (1995). Patient satisfaction with psychiatric services: The development, reliability, and validity of two patient-satisfaction questionnaires for use in inpatient and outpatient setting. *Nordic Journal of Psychiatry*, 49(4), 257-262.
- Herrmann, M., Freyholdt, U., Fuchs, G., & Wallesch, C. W. (1997). Coping with chronic neurological impairment: a contrastive analysis of Parkinson's disease and stroke. *Disability & Rehabilitation*, 19(1), 6-12.
- Kim, J., Heinemann, A. W., Bode, R. K., Sliwa, J., & King, R. B. (2000). Spirituality, quality of life, and functional recovery after medical rehabilitation. *Rehabilitation Psychology*, 45(4), 365.
- Keith, R. A. (1998). Patient satisfaction and rehabilitation services. *Archives of physical medicine and rehabilitation*, 79(9), 1122-1128.
- Kramer, A. M., Fuhrer, M. J., Keith, R. A., & Materson, R. (1997). Rehabilitation care and outcomes from the patient's perspective. *Medical care*, JS48-JS67.
- Krywulak, S. A., Mohtadi, N. G., Russell, M. L., & Sasyniuk, T. M. (2005). Patient satisfaction with inpatient versus outpatient reconstruction of the anterior cruciate ligament: a randomized clinical trial. *Canadian journal of surgery*, 48(3), 201.
- Mackenzie, E. R., Rajagopal, D. E., Meibohm, M., & Lavizzo-Mourey, R. (2000). Spiritual support and psychological well-being: older adults' perceptions of the religion and health connection. *Alternative therapies in health and medicine*, 6(6), 37-45.
- Marks, D. F., Murray, M., Evans, B., & Willig, C. (2000). *Health psychology: theory, practice and research*.
- McCull, M. A., Bickenbach, J., Johnston, J., Nishihama, S., Schumaker, M., Smith, K., & Yealland, B. (2000). Changes in spiritual beliefs after traumatic disability. *Archives of Physical Medicine and Rehabilitation*, 81(6), 817-823.
- Meng, K., Zdrahal-Urbaneck, J., Frank, S., Holderied, A., & Vogel, H. (2006). Patients' expectations, motivation and multi-dimensional subjective and objective socio-medical success in medical rehabilitation measures. *International Journal of Rehabilitation Research*, 29(1), 65-69.
- Mondloch, M. V., Cole, D. C., & Frank, J. W. (2001). Does how you do depend on how you think you'll do? A systematic review of the evidence for a relation between patients' recovery expectations and health outcomes. *Canadian Medical Association Journal*, 165(2), 174-179.
- Nasreddine, Z. S., Phillips, N. A., Bédirian, V., Charbonneau, S., Whitehead, V., Collin, I., & Chertkow, H. (2005). The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. *Journal of the American Geriatrics Society*, 53(4), 695-699.
- Ottenbacher, K. J., Gonzales, V. A., Smith, P. M., Illig, S. B., Fiedler, R. C., & Granger, C. V. (2001). Satisfaction with medical rehabilitation in patients with cerebrovascular impairment. *American journal of physical medicine & rehabilitation*, 80(12), 876-884.
- Robinson, M. E., Brown, J. L., George, S. Z., Edwards, P. S., Atchison, J. W., Hirsh, A. T., & Fillingim, R. B. (2005). Multi-dimensional success criteria and expectations for treatment of chronic pain: the patient perspective. *Pain Medicine*, 6(5), 336-345.
- Salmon, P., & Quine, J. (1989). Patients' intentions in primary care: measurement and preliminary investigation. *Psychology and Health*, 3(2), 103-110.
- Salmon, P., Sharma, N., Valori, R., & Bellenger, N. (1994). Patients' intentions in primary care: relationship to physical and psychological symptoms, and their perception by general practitioners. *Social science & medicine*, 38(4), 585-592.
- Seale, C & Davies, P. (1987). Outcome measurement in stroke rehabilitation research. *Disability & Rehabilitation*, 9(4), 155-160.
- Thorsen, L., Gjerset, G. M., Loge, J. H., Kiserud, C. E., Skovlund, E., Fløtten, T., & Fosså, S. D. (2011). Cancer patients' needs for rehabilitation services. *Acta Oncologica*, 50(2), 212-222.
- Valori, R., Woloshynowych, M., Bellenger, N., Aluvihare, V., & Salmon, P. (1996). The patient requests form: a way of measuring what patients want from their general practitioner. *Journal of psychosomatic research*, 40(1), 87-94.
- Ware Jr, J. E., Phillips, J., Yody, B. B., & Adamczyk, J. (1995). Assessment tools: functional health status and patient satisfaction. *American journal of medical quality: the official journal of the American College of Medical Quality*, 11(1), S50-3.