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SATISFACTION AND PERCEPTIONS OF PATIENTS TOWARD KIDNEY STONES DISEASE MANAGEMENT: A REVIEW OF LITERATURE

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Urolithiasis considered as a disease condition that is neglected in terms of research because of its perceived low prevalence and possibly the seemingly good prognosis associated with it. However, in recent years, the prevalence of urolithiasis is increasing in both developed and developing countries and the disease is associated with significant burden and healthcare cost from patients' caregivers, and society's perspective. All healthcare providers (including pharmacists) have an important role to play in the management of this disease and it deserves more attention in terms of clinical practice and research. This review aims to provide a comprehensive understanding of patient satisfaction, from the aspect of defining satisfaction of patients, perceptions toward disease management, and a review of literature of satisfaction of patients with kidney stones and its magnitude in healthcare provided. The medical literature has many articles about urolithiasis management options. However, there have been no sufficient published studies discussing patient-reported outcomes of kidney stone management to evaluate their satisfaction, preferences, treatment expectations, and quality of life. Future studies are needed to spot the light on kidney stones patients' preferences and reported outcomes.

Keywords: Satisfaction, Kidney stones, Urology, Review

INTRODUCTION

Kidney stones can be formed by the precipitation or crystallisation of minerals and urinary constituents. It is a multifactorial disease, no definite or single cause but several factors may increase its risk. It is a common problem worldwide manifested with recurrent intermittent pain episodes, surgical interventions, medication consumption which affects the quality of life of the patients. Globally, incidence and prevalence of kidney stones are increasing with

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a range of ~2% and 20%. Besides randomised controlled trial (RCT) or evidence-based health care as a guide for therapy selection, listening and investigate the stories about experiences and limitations of therapy is equally essential in the patient care. Understanding the influence of social aspects, perceptions and patients' satisfaction toward management of kidney stones will help in providing appropriate care and patient-education that ensures the best-expected health outcomes (Draper, Cohen and Buchan 2001; Al-Abri and Al-Balushi 2014).

THE CONCEPT OF PATIENT SATISFACTION

Patient satisfaction is a patient-reported outcome. However, the concept of satisfaction is not one dimensional because the satisfaction of patients is pooled with their perceptions and values (Kravitz 1998). Perceptions are the viewpoints and knowledge of patients, while values are standards or expectations of the patients. Hence, individual variation is enormous, since standards and viewpoints vary personally, what is acceptable to one might not be acceptable to another. There were various definitions by different authors, some consider satisfaction as attitudes (Bjertnaes, Sjetne and Iversen 2012), another perceive it as emotions and feelings, while others consider it how close did the healthcare delivery approach the expectations of the patient (Al-Abri and Al-Balushi 2014). Patients' views are considered important to judge the quality of health care. Especially with the patient-centred care that emerged in the past two decades, patient satisfaction surveys became more popular (Al-Abri and Al-Balushi 2014). Healthcare institutes regarded patient satisfaction surveys as a tool to evaluate their quality (Marley, Collier and Meyer Goldstein 2004). Nevertheless, there are insufficient studies discussing the use or the outcomes of such surveys. The patient satisfaction is affected by how the healthcare was provided to them and what were the outcomes. So physicians' healthcare provision plays a big role in achieving expectations to satisfy the patient (Patrick, Scrivens and Charlton 1983). Some articles listed points to be taken care by doctors in order to maintain and keep patients satisfied make eye contact, smile, call people by name, express with words of concern, show courtesy, encourage patients to tell their problem. Also, inform and explain to the patients as this promotes compliance, people are less anxious when they know what is happening (Pol 1994; Prakash 2010).

Measurement of Patient Satisfaction

Urden (2002) reported that many studies do neglect the value of patients' perceptions because of its subjectivity and unreliability, thus, it is unpractical to be used to evaluate healthcare quality. To measure or evaluate the perceptions of patients and their satisfaction toward health care or disease management, quantitative or qualitative approaches can be used.

The quantitative approach is the use of a standardised questionnaire to measure certain criteria in order to judge on the perceptions and satisfaction of patients, it can be collected either self-reported, interview, or other methods (Urden, 2002). Despite being valid and reliable, this method has the disadvantage of inability to capture a wide overview of the patients' feedback. Moreover, many diseases have no disease-specific questionnaire to measure the healthcare-related quality of life or patient-reported outcomes, researchers and clinicians depend on generic questionnaires to know their patients' views. On the other hand, qualitative approach opens widely and allows the patient to speak their mind,

it overcomes the readability barrier of questionnaires, the limited scope of questions, and it views in-depth meanings and behaviours by patients that can be analysed to generate an in-depth view of patient satisfaction and perceptions toward their disease.

Are Patients Satisfied with the Management of Kidney Stones Disease?

With the advent of medical and surgical management of kidney stones disease within the latest two decades, a variety of options are available to treat patients. Options for treatments depend on the treating physician, the disease state and patient's preferences.

Medical treatment mostly used for the prevention of kidney stones, however, with the availability of non-invasive options patients are becoming less careful about preventing the disease, as they started to perceive the treatment is convenient.

Patients' preferences are mediated by various factors such as duration of suffering from disease, disease severity, the duration between painful episodes, invasiveness of procedures, duration and onset of recovery of treatment and others.

To understand patients' preferences, a study used decision modelling to comprehend their decision making and choices toward treatment of kidney stones disease. Patients favoured less-invasive procedures and short-term treatments. Hence, medical treatment was less favoured than shockwave lithotripsy because of extracorporeal shock wave lithotripsy (ESWL) short onset of treatment, but conversely, medical treatment was ranked above invasive procedures (Kuo *et al.* 1999).

The quality of life regarded as one of the main indicators assessing the medical care provided to patients. Nonetheless, there was no disease-specific quality of life questionnaire for patients with renal stones (Rabah *et al.* 2011). Acknowledging the fact that patients with kidney stones disease need to do frequent clinic visits, medical or surgical treatment, might suffer from complications of the disease itself of the treatment (Penniston and Nakada 2007), assessed the health-related quality of life of patients with kidney stones as there was not enough information about their health-related quality of life. Using SF-36v2 Health Survey, a validated questionnaire consists of 36 items for health and well-being asking about physical, social and emotional aspects (McHorney, Haley and Ware 1997), the study found that health-related quality of life of kidney stones patients is impaired. Of note, women had lower scores compared to men despite women being less prone to have kidney stones. However, since it is not a disease-specific questionnaire, it is unable to detect an accurate score. It is probable that quality of life (QOL) of patients are equal while they have completely different disease progression, symptoms or management.

In another study evaluating the SF-36, quality of life questionnaire in patients with kidney stones showed that patients had stable SF-36 questionnaire results over time in both patients who have disease progression in stable patients (Donnally *et al.* 2011). The results suggest that this instrument is unable to truly evaluate the quality of life in these patients. Based on that results and believing in the importance of disease-specific health-related quality of life as an outcome of disease management for patients with kidney stones disease, the same research team developed a tool to assess the health-care related quality of life of kidney stone patients (Penniston and Nakada 2013). The Wisconsin Stone QOL consisted of a 28-item questionnaire, the items involve five categories, namely, general symptoms related to stones, symptoms related to treatment, daily routines, emotions, social roles and intimacy and self-perception. The instrument was promising as a tool to spot the complex symptoms and management of the disease to assess the quality of life of kidney stone disease patients (Penniston and Nakada 2013). A longitudinal cohort study enrolled to test Wisconsin Stone Quality of Life (WiSQoL) questionnaire's generalisability; a

questionnaire developed by Penniston, Bell and Nakada (2014) to assess the quality of life of urolithiasis patients. It concluded that WiSQoL is expected to be a valuable questionnaire for clinical practice and research for patients with kidney stones (Penniston and Nakada 2007; Penniston, Bell and Nakada 2014; Penniston *et al.* 2015). Penniston and Nakada (2016) conducted a study aiming to address patients' expectations of stone management whether surgical or nonsurgical treatments and their health-related quality of life (HRQOL). Concluding that if the treatment were consistent with patients' expectations they deemed to be satisfied with their management, which positively affects their quality of life status (Penniston and Nakada 2016).

Anxiety or depression is strongly related to diseases that cause recurrent painful crisis but there was not enough knowledge about recurrent urolithiasis pain episodes psychological aspects. A study investigated the association between recurrent renal colic and symptoms of anxiety and depression. It demonstrated that more than half of renal stones patients with recurrent painful episodes found to have depression (59%, $p = 0.009$) (Diniz, Blay and Schor 2007).

A case-control study evaluated the association between recurrent pain episodes of renal colic caused by kidney stones and stressful life events. The study was conducted in Sao Paulo recruiting out-patients with kidney stones during year 2001 and 2004. Stressful life events were reported by measuring Social Readjustment Rating scale, a scale developed in year 1967 which widely cited and used to measure stress caused by various diseases, concerning with big life events, not daily routine events (Scully, Tossi and Banning 2000). The study demonstrated an association between stressful life events and recurrent renal colic (Diniz, Schor and Blay 2006).

On the other hand, an internet-based survey was conducted for kidney stones patients to evaluate the management trends, treatment results and patient satisfaction. Based on that, there are no published papers for assessment of patients' satisfaction toward treatment of urolithiasis. This internet-based survey aimed to provide a survey that can collect as many patients as possible to fill the questionnaire in order to give deeper insight into patients' perceptions. A poll stayed on a non-commercial site for patients with kidney disease for more than four months, more than 400 subjects participated. From the results, 52% of the respondents were satisfied with their treatment, while the satisfaction was related to treatment success rather than treatment choice. However, this survey is not a validated questionnaire and cannot make an imprint on stone management and patients satisfaction based on the results (Chandrasekar *et al.* 2015).

Patients judge their health and clinical outcomes based on many aspects and the build perceptions and make opinions based on these outcomes. These outcomes include whether the disease cured or not, are the symptoms relieved, the disease is prevented or disease symptoms will not recur and whether the diagnostic and follow-up tests normalised.

CONCLUSION

There is limited medical literature about what kidney stones patients think and feel and there have also been studies on health psychology and development of psychometric tools for health-related quality of life of patients with kidney stones disease. In general, patients' experiences and satisfaction are mediated by various factors, namely, duration of suffering from disease, disease severity, the duration between painful episodes, invasiveness of procedures, duration and onset of recovery of treatment and others. The satisfaction towards the treatment of kidney stones is associated with aspects including opinions of

patients on effectiveness of treatment, their conditions after the treatment, perceptions towards the treatments, preferences on the types of treatment and the effects of medicine. Considering the importance of satisfying patients to their treatment, there is no enough research conducted to assess the influence of social and psychological aspects of urolithiasis management. Future research is needed to spot the light on patient's satisfaction.

REFERENCES

AL-ABRI, R. & AL-BALUSHI, A. (2014) Patient satisfaction survey as a tool towards quality improvement, *Oman Medical Journal*, 29(1): 3–7. https://doi.org/10.5001/omj.2014.02.

BJERTNAES, O. A., SJETNE, I. S. & IVERSEN, H. H. (2012) Overall patient satisfaction with hospitals: Effects of patient-reported experiences and fulfilment of expectations, *BMJ Quality and Safety*, 21(1): 39–46. https://doi.org/10.1136/bmjqs-2011-000137.

CHANDRASEKAR, T., MONGA, M., NGUYEN, M. & LOW, R. K. (2015) Internet-based patient survey on urolithiasis treatment and patient satisfaction, *Journal of Endourology*, 29(6): 725–729. https://doi.org/10.1089/end.2014.0643.

DINIZ, D., BLAY, S. & SCHOR, N. (2007) Anxiety and depression symptoms in recurrent painful renal lithiasis colic, *Brazilian Journal of Medical and Biological Research*, 40(7): 949–955. https://doi.org/10.1590/S0100-879X2007000700009.

DINIZ, D. H., SCHOR, N. & BLAY, S. L. (2006) Stressful life events and painful recurrent colic of renal lithiasis, *The Journal of Urology*, 176(6): 2483–2487. https://doi.org/10.1016/j.juro.2006.07.156.

DONNALLY, C. J., GUPTA, A., BENSALAH, K., TUNCEL, A., RAMAN, J., PEARLE, M. S. & LOTAN, Y. (2011) Longitudinal evaluation of the SF-36 quality of life questionnaire in patients with kidney stones, *Urological Research*, 39(2): 141–146. https://doi.org/10.1007/s00240-010-0313-2.

DRAPER, M., COHEN, P. & BUCHAN, H. (2001) Seeking consumer views: what use are results of hospital patient satisfaction surveys? *International Journal for Quality in Health Care*, 13(6): 463–468. https://doi.org/10.1093/intqhc/13.6.463.

KRAVITZ, R. (1998) Patient satisfaction with health care, *Journal of General Internal Medicine*, 13(4): 280–282. https://doi.org/10.1046/j.1525-1497.1998.00084.x.

KUO, R. L., ASLAN, P., ABRAHAMSE, P. H., MATCHAR, D. B. & PREMINGER, G. M. (1999) Incorporation of patient preferences in the treatment of upper urinary tract calculi: A decision analytical view, *The Journal of Urology*, 162(6): 1913–1919. https://doi.org/10.1016/S0022-5347(05)68067-6.

MARLEY, K. A., COLLIER, D. A. & MEYER GOLDSTEIN, S. (2004) The role of clinical and process quality in achieving patient satisfaction in hospitals, *Decision Sciences*, 35(3): 349–369. https://doi.org/10.1111/j.0011-7315.2004.02570.x.

MCHORNEY, C. A., HALEY, S. M. & WARE, J. E. (1997) Evaluation of the MOS SF-36 physical functioning scale (PF-40): II. Comparison of relative precision using Likert and Rasch scoring methods, *Journal of Clinical Epidemiology*, 50(4): 451–461. https://doi.org/10.1016/S0895-4356(96)00424-6.

PATRICK, D. L., SCRIVENS, E. & CHARLTON, J. R. (1983) Disability and patient satisfaction with medical care, *Medical Care*, 21(11): 1062–1075. https://doi.org/10.1097/00005650-198311000-00003.

PENNISTON, K. L., ANTONELLI, J. A., AVERCH, T. D., VIPRAKASIT, D. P., SUR, R. L., BIRD, V. G. & NAKADA, S. Y. (2015) Mp27-07 the Wisconsin stone quality of life questionnaire: Baseline results from a prospective, longitudinal, multi-center validation study, *The Journal of Urology*, 193(4): e304–e305. https://doi.org/10.1016/j.juro.2015.02.1169.

PENNISTON, K. L., BELL, R. & NAKADA, S. Y. (2014) Mp15-14 convergent validity of a new outcome measure for patients with urolithiasis: The Wisconsin stone quality of life survey, *The Journal of Urology*, 191(4): e150. https://doi.org/10.1016/j.juro.2014.02.567.

PENNISTON, K. L. & NAKADA, S. Y. (2007) Health related quality of life differs between male and female stone formers, *The Journal of Urology*, 178(6): 2435–2440. https://doi.org/10.1016/j.juro.2007.08.009.

PENNISTON, K. L. & NAKADA, S. Y. (2013) Development of an instrument to assess the health related quality of life of kidney stone formers, *The Journal of Urology*, 189(3): 921–930. https://doi.org/10.1016/j.juro.2012.08.247.

PENNISTON, K. L. & NAKADA, S. Y. (2016) Treatment expectations and health-related quality of life in stone formers, *Current Opinion in Urology*, 26(1): 50–55. https://doi.org/10.1097/MOU.0000000000000236.

POL, L. (1994) Service quality improvement, the customer satisfaction strategy for health care, *Marketing Health Services*, 14: 45.

PRAKASH, B. (2010) Patient satisfaction, *Journal of Cutaneous and Aesthetic Surgery*, 3(3): 151–155. https://doi.org/10.4103/0974-2077.74491.

RABAH, D. M., ALOMAR, M., BINSALEH, S. & ARAFA, M. A. (2011) Health related quality of life in ureteral stone patients: Post-ureterolithiasis, *Urological Research*, 39: 385. https://doi.org/10.1007/s00240-011-0375-9.

SCULLY, J. A., TOSI, H. & BANNING, K. (2000) Life event checklists: Revisiting the social readjustment rating scale after 30 years, *Educational and Psychological Measurement*, 60(6): 864–876. https://doi.org/10.1177/00131640021970952.

URDEN, L. D. (2002) Patient satisfaction measurement: Current issues and implications, *Professional Case Management*, 7(5): 194–200. https://doi.org/10.1097/00129234-200209000-00006.