

AUDIOVISUAL INFORMATION IN PATIENTS UNDERGOING A TOTAL KNEE REPLACEMENT. IS IT IMPORTANT TO MODIFY PREOPERATIVE EXPECTATIONS?

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SUMMARY

Background: Osteoarthritis of the knee is a prevalent condition where surgical intervention is indicated for patients experiencing persistent pain and functional impairment. While total knee arthroplasty is an established treatment for advanced disease, postoperative satisfaction is frequently mediated by the congruence between preoperative expectations and actual clinical outcomes. Information provided during the preoperative phase is critical in shaping these expectations; however, external social influences and digital media often contribute to unrealistic patient goals, necessitating the investigation of various educational modalities.

Objective: This study aims to evaluate the efficacy of a supplemental audiovisual educational tool in modifying preoperative expectations among patients scheduled for total knee arthroplasty and to identify specific patient biophysical or functional profiles that might demonstrate greater receptivity to this intervention.

Key Points: Data from a prospective randomized trial were analyzed to compare standard verbal information against supplemental audiovisual delivery via videodisc. The primary outcome was the quantitative change in the Hospital for Special Surgery Knee Replacement Expectations Survey scores. Results demonstrated that the audiovisual method did not significantly modify overall preoperative expectations compared to traditional verbal counseling. Significant changes were limited to only two survey items: anticipated range of motion and the ability to use stairs. No significant associations were found between the modification of expectations and patient demographics, including age, sex, and body mass index, or preoperative functional status as measured by the Knee Society Score and WOMAC index.

Conclusion: Supplemental audiovisual tools do not significantly enhance the alignment of patient expectations beyond what is achieved through traditional verbal communication. The surgeon-patient interview remains the most critical factor in managing preoperative expectations and ensuring postoperative satisfaction.

KEYWORDS

Arthroplasty, Replacement, Knee; Patient Satisfaction; Osteoarthritis, Knee; Patient Education as Topic; Preoperative Care

Osteoarthritis of the knee is one of the most prevalent pathologies in our society. After many years studying this pathology, surgical treatment is seen as most appropriate in patients with pain, limitation of function and loss of quality of life [1],[2],[3].

The main goal for the surgeon, subsequent to any surgical treatment, is to achieve maximum patient satisfaction with regard to the surgery performed.

Total knee replacement (TKR) is probably the best solution to solve the clinical symptoms of this pathology in its advanced stages. However, the result in this type of treatment is usually influenced by multiple factors that the surgeon does initially not control.

One of these factors is the expectation that patient has created around the outcome after arthroplasty [4].

This expectation is formed and conditioned by the information that the patient receives before and after the visit with the surgeon [5]. The result of the creation of the preoperative expectation will influence postoperative patient satisfaction. The higher the coincidence between preoperative expectation and the real final result as perceived by the patient, the greater the postoperative satisfaction [6],[7],[8].

This leads us to see at it a triangle with three vertices made up by information, expectation and satisfaction. The correct information must be provided in order to generate realistic expectations that lead to maximum postoperative satisfaction.

This triangle theory is very attractive, but it will not work in all our patients. The main reason for this ineffectiveness will be weighty external influences that the social environment can have on this person. The role that family and friends and even Internet have on the patient may create unrealistic expectations that will affect satisfaction and the final real result [5].

For all these reasons, the key element of the triangle is information sharing to foster realistic expectations that lead to full satisfaction. This information can be conveyed in several ways [9]. The most common and widespread is the classic verbal information. You can also reach the patient in an audiovisual or a written form. They all can be carried out on an individual basis or in groups.

Most articles in the literature agree that classical verbal information sharing is the most effective and even more so if done on an individual basis [4]. It is important to determine what kind of information the patient needs and what expectations are generated at interview time. This is the key moment to temper these expectations and promote better adaptation to the real final result. A more personalized sharing of information that is tailored to the patient's specific needs may increase the general success of preoperative education [9].

Knowing that the best method is the personal interview information, other information systems have been postulated as complementary tools to serve as a guide to changing expectations to give the patient a more realistic scenario to assess the future surgical procedure [4].

One of these systems, about which little has been written in the literature, is the audiovisual method. In 2007, our Knee Unit team at Parc de Salut Mar designed a randomized prospective study in which we studied the effect of this system on the change in preoperative expectations in patients undergoing a TKR [4].

Most articles in the literature studied, preoperatively, the influence of the information on the patient's expectation in terms of how this information generates high or low expectations. Postoperatively, the focus of the majority of studies have been on the fulfillment of these expectations and the assessment of final patient satisfaction [1],[10],[11],[12],[13],[14].

Our study focuses on the assessment of how an audiovisual system can modify the previous expectations of the patient. This study attempts to verify whether an additional tool along with classical verbal information sharing can affect those expectations in some sense (increase or decrease) [4]. In addition, we attempted to identify the profile of the patient in whom the audiovisual support would be more effective in terms of the modification of expectations. It was considered important to assess whether there is the need to deal with all patients or only part of those whose profile was more suitable to changing expectations with the audiovisual tool. This might help us better define the financial costs of information processing.

In this sense, it is more important to know the quantitative difference between the preoperative expectation score and the expectation score that the patient has after information sharing. This is more important than what most articles cover as more emphasis is placed on the degree of expectation is high or low [10],[11],[12],[13],[14]. If expectations are not compared before and after information sharing, we cannot know the effect in each person depending on the type of information given.

The main finding of our study was discovering that efficacy in the modification of preoperative expectations by introducing an additional audiovisual method was not demonstrated. We did not find a patient profile in which this method was more effective. After analyzing the Hospital for Special Surgery Knee Replacement Expectations Survey, only two of the questions posed to the patient were changed significantly. They were on range of motion and the use of stairs [4].

In terms of change of expectations, the results of our study are similar to those encountered by other authors [15], [16]. However, they found differences related to the race studied and how this difference affects the level of preoperative expectations. These two studies showed that African Americans had lower expectations relative to the results than Caucasian patients. Weng et al, also demonstrated that these African American patients improved their expectations more than Caucasians after information sharing. The reason for this finding is that their initial expectations were lower and this point makes the likelihood of an increase greater. Caucasians had higher expectations and so did not alter (increase) those expectations with audiovisual support [15]. Again, and in the light of these studies, we can say that the importance of preoperative information lies in changing the expectation and not knowing whether they are higher or lower. It is probable that the initial level of expectation depends on the demographics of each patient and not on the information received. However, the information is going to have an effect on those expectations by bringing them in line with the real final result.

Analyzing what the literature says about expectations depending on the patient's profile, we see that the male with more intense preoperative pain, not living alone/being married, poor general sense of well-being and a reduced body mass index (BMI) seem to be associated with high preoperative expectations [12],[13],[14]. Other authors demonstrate that living alone and a history of joint arthroplasty were associated with lower expectations and that being male and Caucasian were associated with higher preoperative expectations [17]. In our study, in terms of modification of the expectations, no differences were found in terms of demographics (sex, age, weight and BMI), the functional scores (Knee Society Score, Western Ontario & McMaster Universities Osteoarthritis Index and Short Form-36) and radiological characteristics [4].

In the context of the items on the scale of expectations that we used, it seems that some of them can be modified in a significant way with the audiovisual information (range of motion and use of stairs). In any case, the use this additional tool is probably not needed due to the possibility of providing such information through the classical verbal system [4]. This value does not compensate in terms of the cost-effectiveness of this action.

In recent years, there have been some articles that refer to the importance of preoperative information to reduce patient anxiety with regard to the surgical procedure [18],[19]. However, other studies show that audiovisual

information sharing methods improve understanding of the process, reduce the interview time with the patient but do not show differences in the degree of patient anxiety [20].

In summary and in order to clarify the basic concepts related to the triangle of information, expectation and satisfaction, it is important to note that:

1. Patient satisfaction with the surgical process will be essential to achieving good postoperative results [21],[22],[23].
2. It is important to note that, although it is not the reason for this article, this patient satisfaction is highly related to compliance with the preoperative expectations [4],[6],[7],[8].
3. Adequate information about the surgical process is very important in the doctor-patient relationship and a fantastic tool to modify preoperative expectations and adapt better to the clinical outcome. In turn, this information may counteract unrealistic expectations that the patient may have before the interview with the doctor [4],[23].
4. Sometimes, the medical interview is not as long as it should be. Then the inclusion of additional strategies in the shape of audiovisual information tool may be appropriate in order to complement this preoperative information [4].
5. Audiovisual information differs from the written information (another possible complement to classical verbal information) in that written information requires some degree of literacy on the part of the patient and may be subject to more subjective interpretations other than what it is intended to convey [4],[24].
6. Good information, whatever the chosen information delivery route, will shape expectations to generate greater postoperative satisfaction and lead to patient satisfaction with the preoperative process, as well [4],[24].

There are several studies that deal with the level of expectations depending on the type of information received [12],[13],[14],[17]. Other studies, like ours, have evaluated the difference in expectations before and after receiving a single type of information sharing method [4]. It is probably necessary, in future studies, to compare the change in expectations before and after the information depending on the different types of information sharing method. It might also be interesting to assess how the combination of the different information systems might influence the final results and expectations.

In conclusion, the overall preoperative expectations relative to the postoperative results of total knee arthroplasty were not modified by the audiovisual information. In addition, it was not possible to identify a patient biophysical profile for which the intervention might be most effective. Based on these results, this complementary tool may not be systematically recommended, and, therefore, direct contact with the patient at the clinical visit is still the most important factor in influencing in the patient's outlook [4].

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