| RESEARCH ARTICLE

# Music Interventions to Reduce Pain in Postoperative Patients Benigna Prostate Hyperplasia

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| ABSTRACT

Benigna Prostate Hyperplasia (BPH) is a progressive enlargement of the prostate gland that can be surgically remedied. The result of surgery can cause pain. One of the pains is with the relaxation of music. Music relaxation is an action to free mentally and physically from tension and stress so as to increase tolerance to pain. The objective of the study is to know the music intervention to reduce pain in post-operative benigna prostate hyperplasia patients. This research is a literature study with a PRISMA approach and a systematic review using PICO. The search databases used are Google Scholar, PubMed, Alberta Health Services, and Wiley Online Library, with keywords. The results of the review obtained revealed that 15% to 60% of men over 40 years old have BPH, while TURP primarily occurs in patients aged 61-70 years, and all BPH patients experience pain and experience depression levels. 24.9% of patients suffered varying degrees of depression, including mild symptoms of 20.9% and moderate/severe symptoms of (3.9%). Patients were aged 61-70 years, 39.5%. Pasin returned to normal activity by 71%. TURP affects patient anxiety with a signification of 0.005. Musical interventions are effective for lowering pain in postoperative BPH patients. Advice to nurses is expected to provide musical interventions as an alternative to reduce pain in postoperative BPH patients.

| KEYWORDS

Music intervention, Pain in Post Operating Patients, Benign Prostate Hyperplasia

## 1. Introduction

Benigna Prostate Hyperplasia (BPH) is a disease of enlargement or hypertrophy of the prostate. Hyperplasia is an enlargement of cell size (quality) and is followed by an increase in the number of cells (quantity). BPH often causes disturbances in urine elimination due to enlarged prostate that tends towards the front or suppresses the urinary vesicles (Bradero et al.,2017). BPH is a disease where there is an enlargement of the prostate gland due to benign hyperplasia of cells that is common in elderly men (Gocke, 2016.). This pathological condition is most common in elderly men and the second most frequently found cause of medical intervention in men over the age of 50 years (Groat, 2016). The incidence of BPH in the middle of the middle reaches a result of 40%, and 90% occurs at the age of 50-60 years (Dinkes Jawa Tengah, 2020)

Pain is an unpleasant feeling for some people. Pain is often associated with damage to the body, which is a warning against the presence of an actual or potential threat (Judha, 2017). The surgical procedure causes pain; it can cause serious complications and hinder the patient's recovery process if pain management is not carried out properly. Patients who performed surgery experienced acute pain after surgery of about 80%. The management is divided into two, namely pharmacological and non-pharmacological management. Pharmacological treatment using various medicinal drugs such as analgesics. Non-pharmacological treatment can be done in various ways, such as self-hypnosis and relaxation. Relaxation techniques are currently developed into several techniques, one of which is the music relaxation technique. Relaxation Music is a distraction method, referred to as distraction, which can distract, which is useful for reducing physiological pain, anxiety, stress and others.

Distraction techniques refer to comforting or distracting someone or a method of drawing the patient's attention to something else so that the patient forgets the pain or anxiety felt. Based on the description from the background above, the author is interested in systematically assessing the quality of the article and synthesizing the results of research related to the influence of music interventions to reduce pain in postoperative benign prostate hyperplasia patients.

The purpose of this literature review is to find out the effect of Music Interventions to Reduce Pain in Post Operative Benign Prostate Hyperplasia Patients.

## 2. Method

The article design used is a systematic review with reference to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Dysintensized data on the influence of Music Interventions to Reduce Pain in Post-Operative Benign Prostate Hyperplasia Patients was conducted in cross-sectional form.

The search process begins with formulating PICO as the author's guide in the clinical search of articles. PICO is an acronym for P (patient, population, problem), I (intervention, prognostic factor, exposure), C (comparison, control), and O (outcome). The formulation of PICO in this systematic review is carried out in accordance with the PICOS model. PICOS is a clinical information search method which is an acronym for 5 components, namely: P (patient, population, problem), I (intervention, prognostic factor, exposure), C (comparison, control), O (outcome) and S (study design). The formulation of PICOS in this writing article is as follows: P: patients with Post Operative Benigna Prostate Hyperplasia (BPH),

Article Search for writing literature reviews using keywords. Keywords are short words that can describe the theme of an article or document (Figueroa et al., 2014). Keywords make it easy for every reader of the article to be able to quickly find out the essence of the article.

The key word in the evidence-based research search in this literature review is music intervention and Pain In Post Operating Patients with Benigna Prostate Hyperplasia. Primary article searches use an electronic database that aims to obtain relevant articles; the database used includes Google Scholar, Science Direct, and Pubmed.

The secondary data source obtained is in the form of journals that are relevant to the topic of searching using the database used; among others, article searches are carried out relevantly according to those formulated in the PICOS framework. Searches using electronic databases such as Google Scholar, Science Direct, and Pubmed, which are then adjusted to keywords and inclusion and exclusion criteria that have been compiled are research articles. The selected article is an article that the author can download or open access. Of the keywords used, namely music intervention and pain in post operating OR patients benigna prostate hyperplasia, the articles obtained from electronic searches through the databse were 4364 articles.

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After that, checking for duplication of titles is carried out; the same title is eliminated from the article search process. The search is continued by eliminating articles that have titles that are irrelevant to the topic to be reviewed. The selection is then continued with abstract screening according to predetermined inclusion criteria, and inappropriate articles will be eliminated from the search process. Furthermore, articles that have been filtered to this stage will be filtered again through full text screening, where articles that have really met the inclusion criteria and there are no problems in terms of research methodology will be involved in the review process for further article assessment. The flow of searching for articles based on the PRISMA method in detail can be seen in figure 2.1

Flow Article Search get views at Diagram picture 2.1



**IDENTIFICATION**

Database searches: Google Scholar (n = 2,007), Science Direct (n = 40000 )PubMed (n= 3191) WileyOnlineLibrary(n=41)
Entire article (n=6007)

Number of articles after duplication title issued (n=5967)

Duplication of titles (n=40)

**SCREENING**

The article was excluded because the title/abstract was irrelevant to the topic of the review (n=5927;

Number of articles after duplication of titles issued (n=40)

**ELIGIBILITY**

*Screening full paper (n = 10)*

Article expelled due to non-conforming intervention and methodology n=2

**INCLUDED**
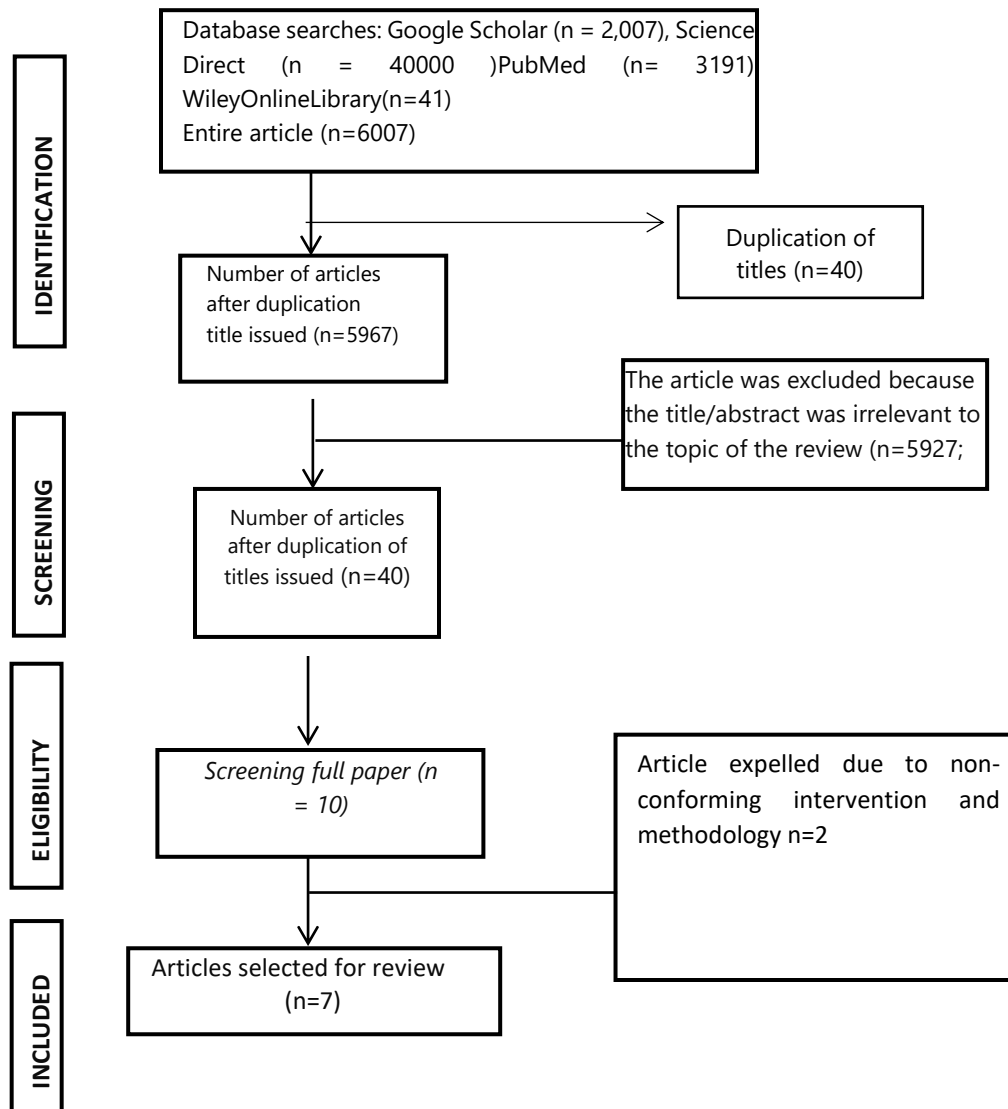
Articles selected for review (n=7)

Figure 2.1 Diagram of article search results based on PRISMA

The selected articles are critically assessed which articles that have been selected are then assessed to see the quality of the article. The assessment uses a questionnaire from the Joanna Briggh Institute (JBI) in 2020, where the questionnaire will assess the quality of the methodology and possible biases in design, behavior, and analysis. JBI questionnaires have many types according to the various research designs available; in this case, JBI questionnaires will be used for experimental research designs, namely Randomized Controlled Trial (RCT) and Quasi Experimental (non-randomized) with yes/no / unclear and not applicable. The assessment process is to answer the question points contained in the questionnaire according to the content of the article in question using yes/no/unclear/invalid answers. The answer "yes" will get a score of 1, and the other answer gets a value of 0, then the result is divided by the total number of questions and multiplied by 100%. Quality is good when the score is 80-100%, the quality is enough at 50-79%, and the quality is less < than 50%. Here are the assessment results from selected articles. The process of analyzing the quality of the article is found in table 2.3

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Table 2.3 Articles assessed for quality

| Article | Heading | Researchers |
|---|---|---|
| 1. | Modern best practice in the management of benign prostatic hyperplasia in the elderly | Eric Bortnick, Conner Brown, Vannita Simma-Chiang and Steven A. Kaplan(2020) |
| 2. | Incidence and Risk Factors of Post-Operative Depression in Patients Undergoing Transurethral Resection of Prostate for Benign Prostatic Hyperplasia | Daofang Zhu,Jingjing Gao,Xianming Dou,Dangwei Peng,Yao Zhang,Xiansheng Zhang(2021) |
| 3. | Efficacy and safety of HT080 for lower urinary tract symptoms associated with benign prostatic hyperplasia | Jungbin Song, KMD, PhDa, Seung Hwan Lee, MD, PhDb,Hocheol Kim,(2019) |
| 4. | Efficacy and Safety of Prostatic Artery Embolization in the Treatment of High Risk Benign Prostatic Hyperplasia and its Influence on Postoperative Life Quality of Patients. | Kun Wang, Ming Chen.,, Yiqing Liu,, Weiren Xiao, Yonghong Qian1 and Xu Liu(2022) |
| 5. | Efficacy and safety of prostate artery embolization for benign prostatic hyperplasia: an observational study and propensity-matched comparison with transurethral resection of the prope (the UK-ROPE study) | Alistair F Ray, John Powell, Mark J Speakman, Nicholas T Longford, Ranan DasGupta, Timothy Bryant, Sachin Modi, Jonathan Dyer, Mark Harris, Grace Carolan-Rees, Nigel Hacking(2018) |
| 6. | Characteristics of Benign Prostatic Hyperplasia (BPH) Patients Undergoing Transurethral Resection of the Prostate (TURP) | Zen Ary P, Taufiq N Culture, Besut(2021) |
| 7 | Postoperative antibiotic therapy patterns in benign Postoperative antibiotic therapy patterns in benign prostatic hyperplasia (BPH) patients | Aghnia Fuadatul Inayah, Rizki Lisya Nugrah, Didik Hasmono(2020) |

## 3. Review Results
Data abstraction is the process of finding conclusions in the article to be studied. Data abstraction is made by summarizing the data in the article, which includes the title, type of article, research location, author, purpose, research design, sample and sample techniques, interventions, measured outputs, and research results. The synthesis process in review articles uses the quantitative systematic review method by identifying research questions, developing research protocols, determining the location of the research results database, selecting relevant research results (reading the entire content of articles, keywords, and themes),

selecting quality research results, data extraction from individual studies, article synthesis, and presentation of research results in research reports.

### 3.1 First article (Eric et al., 2020)
The advantage of the first article is that it is relevant to the topic postoperative benigna prostate hyperplasia patients; this research article brings new developments in nursing care interventions in prostate benigna patients. The downside is that it does not discuss the level of postoperative pain in prostate hyperplasia.

As a result of the study, this new study shows more side effects for elderly men with prostate hyperplasia incidence. Clinical trials show the benefits of combination therapy for the treatment of BPH-associated LUTS; however, none of these studies is focused exclusively on the elderly population. The Prostate Symptom Medical Therapy (MTOPS) trial studied the combination of finas teride with doxazosin in 3000 men with an average age of 62.6 years (SD 7.3 years) and found that the combination of improved urinary symptoms and the maximum urine flow rate was more than both.

In addition, this study also showed that combination therapy prevents the development of BPH better than any of the agents alone and reduces the long-term risk of acute urinary retention and the need for invasive therapy. So it can be concluded. Combination therapy has a greater risk reduction in acute urinary retention or BPH-related surgery and a greater reduction in the relative risk of clinical development than any of the monotherapy. The American Urological Association (AUA) recommends a combination of alpha-blockers and 5-alpha reductase inhibitor therapy for men with moderate-severe LUTS symptoms, the elderly, and prostate size greater than 40g.

### 3.2 Article 2 (Daofang Zhu, 2021)
This study was conducted in China in 2021; the study data used benign prostatic hyperplasia patient cohort data of 611 men. This study measured the level of depression of patients undergoing prostate benigna surgery. The downside is that it does not discuss the level of postoperative pain in prostate hyperplasia.

The purpose of the study was to level postoperative depression of patients and potential risk factors for depression in the group of patients with BPH in China. Methods: In this survey, 611 men underwent transurethral resection of the prostate (TURP). Depression or anxiety assessment with the Zung questionnaire The Self-rating Depression Scale is used for the evaluation of depressive symptoms. Sociodemographic, clinical and other data are also collected. The results showed that 152/611 (24.9%) patients suffered from varying degrees of depression in the 6 months after TURP, including mild symptoms (20.9%) and moderate/severe symptoms (3.9%). A total of 421 (68.9%) patients experienced post-TURP erectile dysfunction (DE). The incidence of depression is closely related to marital status, level of education, smoking, alcohol consumption, the severity of lower urinary tract symptoms (LUTS), duration of BPH, erectile function, and comorbidities (such as diabetes, dyslipidemia, and bladder stones).

Conclusion: Many risk factors are associated with the occurrence of depression in patients undergoing TURP. Marital status, alcohol consumption, moderate or severe LUTS, duration of BPH, longer ED, urinary incontinence, and comorbidities such as diabetes and bladder stones are associated with an increase in the likelihood of moderate or symptoms of major depression

### 3.3 Article 3 (Jungbin Song,2019)
This study used 100 respondents with an age range of 40 years to 75 years. The sampling technique uses random sampling. This study aimed to determine the severity score of respondents who experienced benigna prostate hyperplasia (BPH) assessment of alertness using the LUTS scale by assessing the lower urinary tract.

As a result of the study, patients experienced severity at levels 8 – 19 from the moderate to severe range. One of the limitations of this trial is that the duration of treatment is 3 months, thus providing short-term results. Furthermore, this study had a relatively small sample size, although it produced a statistical strength of 80%. These results will guarantee confirmation with further long-term studies with larger sample sizes.

### 3.4 Article 4 (Kun Wang,2022)
This study used a total of 34 respondents or a sample of benign prostatic hyperplasia (BPH). This study was to determine changes in the severity of BPH patients after surgery along with the level of depression and assess the quality of life of patients.
The results of the study obtained scores of the self-rating anxiety scale (SAS), and the self-rating of the depression scale (SDS) compared to before surgery, 1 month and 6 months after surgery. No severe complications occurred in postoperative patients. IPSS, PV and RU patient levels one month and six months after surgery are lower than those before surgery, while Qmax levels are higher than before surgery. Besides the IPSS, PV and RU levels, six months after surgery are significantly lower than those one

month after surgery, and Qmax levels are significantly higher than those months after surgery (p <0.05). GQOLI-74 scores six months after surgery were significantly higher than before surgery (p <0.05). The HUS of patients six months after surgery increased significantly, and SAS and SDS scores increased significantly compared to those who were before surgery (p <0.05). Conclusion: For high-risk patients with BPH, prostate embolization is an effective and safe method, which can significantly improve the patient's quality of life after surgery and have better prospects

### *3.5 Article 5 (Alistair F Ray,2018)*
This study used a total of 305 respondents or samples taken from patients of the British urology center hyperplasia. Patients were experiencing BPH. This study was to determine the level of anxiety of BPH patients after surgery.

Results showed out of 216 patients, one had sepsis, one required a blood transfusion, four had local arterial dissection, and four had groin hematomas. Two patients had non-target embolization that emerged as self-healing penile ulcers. Additional results reported patients, pain levels and return to normal activities. 71% of PAE cases are done as outpatient or day cases. In contrast, 80% of TURP cases require a minimum of 1 night of hospitalization, and most require 2 nights.

Conclusion: Our results suggest that PAE provides a clinical and statistical reduction in anxiety, although some of these improvements were greater in the TURP group. The safety profile and faster return to normal activities can be seen as particularly beneficial by patients considering PAE as an alternative treatment to TURP, with advantages along with the reduced length of hospital stay and the need for admission after PAE. PAE is an advanced embolization technique that demands a high level of expertise and should be performed by an experienced interventional radiologist who has been appropriately trained and supervised.

### *3.6 Article 6 (Zen Ary 2021)*
This study is a descriptive study by collecting data on 162 BPH patients undergoing TURP. The purpose of this study was to determine the characteristics of BPH patients undergoing TURP

The results of the study were obtained in patients aged 61-70 years (39.5%). Recurrent urinary retention was the most common indication for the procedure (54.9%), followed by bladder stones (21%), failure of pharmacological therapy (10.5%), inguinal hernia (8%), severe Lower Urinary Tract Symptoms (LUTS) (3.7%), and renal insufficiency (1.9%). As many as 58% of patients undergoing TURP have a prostate volume higher than 50 ml.

### *3.7 Article 7 (Aghnia, 2020)*
The study sample was BPH patients who received antibiotics for the period January - November 2019. Cases of BPH that occur in men mostly occur at the age of 60-74 years. BPH cases occur in men due to the age factor that mostly occurs in the age range of 60 - 74 years.

The results of this study showed that TURP was primarily conducted among patients aged 61-70 years (39.5%), with recurrent urinary retention as the most prominent indication (54.9%), and most patients (58%) had a prostate volume of more than 50 ml. As many as 15% to 60% of men over 40 years old have BPH. In an autopsy study, as many as 8% of 40-year-old men experienced BPH. This figure rises to 50%, and 80% of them are men aged 60 and 90, respectively. However, our study shows that TURP is more commonly performed in men of the 61-70 age group with an average age of 68.1 years. Agrawal et al. showed similar results; the median age for patients undergoing TURP was 62.1 ± 8.22 years in 2006 and 66.94±9.12 years in 2016. Why older age groups rarely undergo TURP needs to be explored. It is possible that the use of pharmacotherapy, due to its well-established role in the fight against LUTS, reducing the size of the prostate, and solidifying the development of the disease, became the first line of treatment in the management of BPH; hence the constant decrease in the number of TURPs carried out in this age group. In our study, most patients had a prostate volume greater than 50 milliliters (58%), with an average prostate volume of 57.7±29.2 ml with a maximum volume of 127 ml. EAU guidelines, based on class A evidence, recommend TURP for prostates between 35 and 80 ml. Above that limit, open surgery appears to remain the only option for treating BPH, according to available clinical evidence. However, in many cases, for experienced urologists, TURP may represent a better alternative. A study by Persu et al. showed that TURP is just as effective for the medium and large size of the prostate compared to open prostatectomy, with major disadvantages of slightly higher urination rates of incontinence and urethral strictures.

**Conflicts of Interest:** The authors declare no conflict of interest.

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