

# Acceptance of Rectal Suppositories for Pain Relief among Preoperative Patients at Services Hospital Lahore

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## ABSTRACT

**Background:** Management of postoperative pain is a vital constituent of postoperative care. Most commonly used routes are I.V and oral. Another feasible but rather uncommon route for drug administration is rectal route. It has quick absorption, rapid achievement of desired plasma levels and less risk of gastric irritation. It can be self administered and need special care. But there are very strong feelings about the rectal route of administration. In our society proctology related topics are considered a taboo to be discussed and hence rectal route of drug administration is not commonly practice.

**Aim:** To assess the awareness and acceptance of use of suppositories in our common population.

**Methods:** This cross sectional study was conducted at surgical floor of Services Hospital , Lahore among 167 preoperative patients using a questionnaire to record their response during a period of one month.

**Results:** Out of 167 Subjects interviewed, only 39.5% subjects knew about rectal suppositories. Only 10(6%) subjects knew about pain relief function of suppositories. When given the option 84 (50.3%) subjects said they would choose suppositories as postoperative analgesia while 83 (49.7%) subjects refused. The refusal was mainly due to personal preferences (89.2%).

**Conclusion:** Many people were unaware of rectal suppositories and its use for pain relief. It was considered an unpleasant route and refused. When counseled about its benefits, respondents showed a positive response.

**Keywords:** Suppositories, Pain Relief, Rectal, Acceptance, Postoperative

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## INTRODUCTION

A number of patients suffer from postoperative pain after engaging in a surgical procedure so prescription of a pain killer to deal with it is a necessary part of postoperative patient care. Sufficient provision of postoperative painkillers helps in patient comfort and satisfaction with early mobilization and thus decreased risk of deep vein thrombosis and reduces hospital stay. Inability to provide good analgesia may result in patient discomfort and anxiety, increased incidence of nausea and vomiting , late mobilization and increased risk of deep vein thrombosis, a prolonged hospital stay and disturbance of sleep<sup>1</sup>.

There are many postoperative interventions and management strategies available to reduce and manage postoperative pain. There are different routes through which postoperative analgesia is given in Pakistan. The commonly used are per oral and intravenous. In some surgeries patient is kept nil per oral hence only intravenous route is used. Commonly used I.V. analgesics are Ketorolac (NSAID), Nalbuphine (opioid) and Acetaminophen.

Another feasible but rather uncommon route for drug administration is through rectal route. Rectal suppositories have many benefits. The absorption site is near the administration site, so desired plasma level of drugs are achieved quickly with reduced side-effects. It is self administrable and does not need special care as with I.V. route..It is less likely to cause nausea , vomiting and gastric upset. Another advantage of administering a drug through rectal route , is that it bypasses around two thirds of the first pass metabolism. It is useful in children and patients who can't take drugs orally such as dysphagia, intestinal obstruction, ileus or comatose.

The analgesic effect of rectal suppositories is as good as oral or I.V. pain killers. A clinical trial investigated and compared the effects of intravenous and rectal acetaminophen on controlling postoperative pain in children. Results showed a better analgesic effect with rectal analgesia along with a longer duration<sup>2</sup>.

It is common knowledge that there are very strong feelings about the rectal route of administration. In each society there are socio-cultural norms and recommendations regarding the knowledge, attitude, preference, and behaviour of people.[3] In our society proctology related topics are considered a taboo to be

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discussed and hence rectal route of drug administration is not commonly practice here.

The aim of this study is to identify level of awareness in general public regarding rectal suppositories' use as pain killers and their acceptance as postoperative analgesia.

**MATERIALS AND METHODS**

This Descriptive Cross Sectional Study took place at the surgical floor of Services Hospital, Lahore and Non Probability Convenience Sampling Technique was used. The study was approved by the Ethical Committee of SIMS. The population under study consisted of adults above 18 years undergoing any surgical procedure. The duration of study was one month and sample size was 167. Patients who were not interested in taking part were excluded. A structured questionnaire was used to capture patient feedback on usage of rectal suppositories for postoperative analgesia. The response of each patient was assessed from their questionnaire, compared and analyzed quantitatively. SPSS computer software was used for compilation and analysis of data.

The objectives of this study are to assess the awareness among people regarding rectal suppositories, their use as pain killers and the acceptance of rectal suppositories in our society.

**RESULT**

Total number of subjects taking part in study at the time of its inception is 167. No subject was dropped out or lost at any point in the study. Out of 167 Subjects interviewed, 51 (30.5%) were between 0-30 yrs,103(61.7%) were between 31-60 yrs and those who were aged more than 60 yrs were 13(7.8%). 80(47.9%) subjects were male and 87(52.1%) were female.

23(13.8%) subjects were unmarried, 142(85%) were married while 2(1.2%) were divorced.

53(31.7%) subjects were illiterate, 33(19.8%) were primary passed, 39(23.4%) subjects studied upto secondary level while 42(25.1%) subjects were graduate or post graduate. 66(39.5%) subjects already knew about rectal suppositories while 101(60.5%) did not. Only 17(10.2%) subjects had previously used it and 150(89.8%) had not.

Among 167 subjects only 10(6%) knew about role of suppositories for pain relief purposes while 157(94%) did not. Source of information for people who knew about rectal suppositories was mainly from friends or family - 11(40%) , previous use - 3(16.7%), prescribed by a doctor - 3(16.7%) or other - 1(5.6%). For first choice postoperative analgesia 39(23.4%) chose IV drugs, 72(43.1%) chose oral drugs and 56(33.5%) chose rectal suppositories.

After explaining benefits of choosing rectal suppositories as painkillers 84 (50.3%) subjects said they would choose it as postoperative analgesia while 83 (49.7%) subjects refused.

Reason of choice was mainly decreased risk of gastric irritation 44(52.4%), feasibility 26(31.0%) , cost

effectiveness 4(4.8%), doctor's advice 8(9.5%) and others 2(2.4%).

Reasons of not choosing rectal suppositories were due to personal preferences 74(89.2%) , social issues 6(7.2%) , religious issues 1(1.2%) and others 2(2.4%).

Table 1: Breakdown of patients' characteristics

Variables	n	%age
<b>Age</b>		
0 - 30 yrs	51	30.5
31 - 60 yrs	103	61.7
Above 60 yrs	13	7.8
(Breakdown of respondents by age)		
<b>Gender</b>		
Male	80	47.9
Female	87	52.1
(Breakdown of respondents by gender)		
<b>Marital status</b>		
Unmarried	23	13.8
Married	142	85
Divorced	2	1.2
(Breakdown of respondents by marital status)		
<b>Educational status</b>		
Illiterate	53	31.7
Primary	33	19.8
Secondary	39	23.4
Graduate/Postgraduate	42	25.1
(Breakdown of respondents by educational status)		

Table 2: Distribution of patients' response-\*

Variables	N
<b>Knowledge about rectal suppositories</b>	
Yes	66(39.9%)
No	101(60.5%)
<b>Knowledge about rectal suppository as pain killer</b>	
Yes	10(6%)
No	157(94%)
<b>Source of information about rectal suppositories (total: 18)</b>	
Friends and family	11(61.1%)
Previous use	3(16.7%)
Prescribed by doctor	3(16.7%)
Others	1(5.6%)
<b>History of using rectal suppositories</b>	
Yes	17(10.2%)
No	150(89.8%)
<b>Route of choice of postoperative analgesia</b>	
Oval	39(23.4%)
IV	72(43.1%)
Rectal suppository	56(33.5%)
<b>Choosing rectal suppository</b>	
Yes	84(50.3%)
No	83(49.7%)
<b>Reason of choice (n=84)</b>	
Cost effective	4(4.8%)
Feasibility	26(31%)
No risk of gastric irritation	44(52.4%)
Doctor's advice	8(9.5%)
Others	2(2.4%)
<b>Reason of not choosing (n= 83)</b>	
Social issues	6(7.2%)
Religious issues	1(1.2%)
Personal preferences	74(89.2%)
Others	2(2.4%)

## DISCUSSION

Pain sensations and reactions involve complex neuro-hormonal signaling pathways. Postoperative pain induced reflex response may adversely affect pulmonary function, increase cardiac demands, reduce gut motility or cause skeletal muscle spasm. There are many postoperative interventions and management strategies available to reduce and manage postoperative pain. It may be patient controlled or "as needed". It may be systemic, regional or local. There are many routes for administration of analgesic agents e.g., per oral, intravenous, per rectal, intramuscular, epidural or local nerve blocks.

Oral route is a route that is feasible, non invasive, safer and does not require trained personnel. However it may irritate gastric mucosa and cause nausea, vomiting and gastritis. It is also difficult to administer drugs via oral route in children and comatose. First pass effect may also decrease the concentration of drug reaching the systemic circulation.

Intravenous routes is a common route to administer painkillers after surgery. However an injection inherently causes pain when the skin is broken. Medications given intravenously act on the body very quickly, so side effects, allergic reactions, and other effects can happen fast. Improper handling of IV lines may lead to phlebitis, embolisms or sepsis. Repeated intramuscular injections are painful and an unappealing idea to the patients. They can also cause local abscess, cellulitis hematoma, tissue fibrosis and injury to nerves.

Peripheral nerve blocks are used to inject anesthetics around a nerve that control sensations to the area undergoing surgery, however they may be associated with nerve injuries, catheter infection and bleeding. Epidural analgesia is injection of local anesthetics in epidural space. It can be used in thoracic, abdominal, and gynecological surgeries but it may cause development of epidural hematoma and abscesses.

Per rectal drug administration can be done through rectal suppositories. As absorption site is near the administration site, there is a quick absorption of drug with rapid achievement of desired plasma level. It is feasible and self administrable. It is less likely to cause nausea, vomiting and gastric upset. Another advantage of administering a drug rectally, is that it bypasses around two thirds of the first pass metabolism. It is useful in children and patients who are unable to take drugs orally such as dysphagia, intestinal obstruction, ileus or comatose<sup>4</sup>.

Opioid analgesics are the most common first line treatment for postoperative pain relief but due to its adverse effects like nausea, vomiting and ileus other analgesic combinations are being preferred now. The most well studied combination of non-opioid analgesics includes acetaminophen with NSAIDs both of which are available in form of suppositories<sup>5</sup>. Their use decreases the postoperative need of opioid analgesics, thus less incidence of sedation, nausea, vomiting and constipation<sup>6</sup>.

A study showed that the use of NSAID suppository combined with IV patient-controlled analgesia results in reduced narcotic consumption and better patient satisfaction compared to combination of IV acetaminophen and IV patient-controlled analgesia<sup>7</sup>.

Rectal forms are one of the oldest pharmaceutical dosage forms as their origin goes back to antiquity.<sup>[8]</sup> Despite being the oldest and well-established method for the delivery of drugs internationally people are still intolerant of suppositories. A research was conducted to assess response of parents regarding choice postoperative analgesia for their children. 58% parents thought the rectal route to be an unpleasant way of giving medication. Parents' limited knowledge and experience were considered important determining factors<sup>9</sup>.

Another study examined the preference for routes of administration of post-operative analgesia in doctors, nurses, paramedical staff and patients. 74% preferred the intravenous (i.v.) route, 4% preferred a suppository while 22% chose both. It also showed better tolerance of suppositories among patients than hospital personnel. [10] Studies show that Paracetamol when given rectally has better quality and longer duration of postoperative analgesia than oral and intravenous route without any side effects<sup>11</sup>.

In light of these studies rectal route has many advantages over intravenous and oral routes thus patients should be educated to increase acceptance of rectal suppositories among them and given the option of rectal route for administering drugs.

**Implications:** This research can help in conducting further researches and clinical trials for analgesic effects of rectal suppositories. It can lead to an initiative in educating patients admitted in surgical wards about benefits of suppositories over other routes of drug administration. It will also help our society to accept suppositories as a medicine instead of a taboo.

## CONCLUSION

This study concluded that most of the people do not know about rectal suppositories or its pain relief properties. Only 6% of the subjects had previously used suppositories. During our data collection we met several occasions where patients knew about rectal suppositories but had not used or refused to use due to personal preferences in view of the general trend of the society where using rectal route for drug administration is considered awkward. Thus they choose IV route despite of it being painful. However, when told about benefits of rectal suppositories, their cost effectiveness and less risk of gastric irritation, many people showed a positive response

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