

https://dspace.org/

Parents/Caregivers' Perceptions Towards use of Analgesic Suppositories in Paediatric Elective Surgery

Mgoqo, Nondwe; Mogane, Palesa; Chakane, Palesa Motshabi

2023-04
Medknow Publications
https://hdl.handle.net/10539/49326
Mgoqo N, Mogane P, Chakane PM. Parents/ caregivers' perceptions towards use of analgesic suppositories in paediatric elective surgery. Afr J Paediatr Surg 2023;20:124-9.

Downloaded from a DSpace repository. https://dspace.org/

Original Article

Parents/Caregivers' Perceptions Towards use of Analgesic Suppositories in Paediatric Elective Surgery

Nondwe Mgoqo, Palesa Mogane, Palesa Motshabi Chakane

Department of Anaesthesiology, University of the Witwatersrand, Johannesburg, South Africa

Abstract

Introduction: Despite the benefits of analgesic suppositories, there remains controversy around their administration. The perceptions of the parents and caregivers regarding this are unknown in our population. We investigated the perceptions of parents/caregivers towards the use of analgesic suppositories in elective paediatric surgery. We also explored whether parents/caregivers perceived a need for additional consent for the administration of suppositories. **Materials and Methods:** This was a prospective cross-sectional study conducted at Charlotte Maxeke Johannesburg Academic Hospital, South Africa. The primary outcome was to describe perceptions of parents/caregivers towards analgesic suppositories. Questionnaire-guided interviews were conducted with parents/caregivers of children presenting for elective paediatric surgery. **Results:** Three hundred and one parents/caregivers were enrolled in the study. Two hundred and sixty-two (87%) were female and 174 (13%) were male. Two hundred and seventy-six (92%) were parents and 24 (9%) were caregivers. There was a high level of acceptability of suppository use in 243 (81%) parents/caregivers. Majority (235, 78%) felt that they should be asked for permission before their child was given a suppository, and more than half (134, 57%) expressed that it should be in a written consent format. The parents/caregivers did not believe that suppositories would cause pain (unadjusted odds ratio [uOR]: 2.49; 95% confidence interval [CI]: 1.29–4.79; $P = 0.006$) but were unsure whether they would relieve post-operative pain (uOR: 0.25; 95% CI: 0.11–0.57; $P = 0.001$). Those who had previously used a suppository themselves were significantly more likely to accept the use of suppositories in children (uOR: 4.34; 95% CI: 1.56–12.07; $P = 0.005$). **Conclusion:** There was a high level of acceptability of the use of analgesic suppositories. Our population showed a unique preference for written consent over verbal consent. There was a strong positive association between previous use of suppositories by parents/caregivers and acceptance for use in children.

Keywords: Anaesthesia, analgesic suppositories, consent, paediatric, parent

Introduction

Administering of rectal analgesics is a common practice in South Africa.[1] Analgesic suppositories form part of the anaesthetists' armamentarium in pain management, particularly in paediatric surgery.

In spite of the benefits of analgesic suppositories, there remains controversy around their administration.[2] There are strong cultural and sexual beliefs regarding the intimacy of the anorectogenital region.[2]

The aim of the study was to describe the perceptions of parents/caregivers towards the use of analgesic suppositories in elective paediatric surgery and to determine whether parents/caregivers perceived a need for additional consent for the administration of suppositories for analgesia during anaesthesia.

Received: 04-06-2021 **Revised:** 23-09-2021 **Accepted:** 05-10-2021 **Available Online:** 15-07-2022

Access this article online

Quick Response Code:

Website: www.afrjpaedsurg.org

DOI: 10.4103/ajps.ajps_90_21

Materials and Methods

We conducted a prospective cross-sectional study of parents/caregivers' perceptions towards analgesic suppositories at Charlotte Maxeke Johannesburg Academic Hospital (CMJAH). The hospital is an academic institution affiliated with the University of the Witwatersrand. It provides tertiary and quaternary specialised services.[3] The hospital has 1088 beds, and the theatre complex has 23 theatres.[3] Three of these theatres are dedicated paediatric theatres sub-serving all general surgery, orthopaedics and plastic surgery disciplines.[3] CMJAH is situated in Johannesburg, the largest city in South

Address for correspondence: Dr. Nondwe Mgoqo, Department of Anaesthesiology, Charlotte Maxeke Johannesburg Academic Hospital, 7 York Road, Parktown 2193, Johannesburg, South Africa. E-mail: nondwe.m@gmail.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Mgoqo N, Mogane P, Chakane PM. Parents/caregivers' perceptions towards use of analgesic suppositories in paediatric elective surgery. Afr J Paediatr Surg 2023;20:124-9.

Africa and the provincial capital of the Gauteng province.[4] According to the 2011 census, the population of Johannesburg was 4,434,827 people, of which 23% were aged 0–14 years.[4]

During the months of October to December 2020, parents/ caregivers of paediatric patients presenting for elective surgery were approached for interviews. The hospital's screening protocol for symptoms of COVID-19 was adhered to and standard precautions were followed such as sanitising and cleaning of surfaces before and after interviews. Questionnaire-guided, one-off interviews were conducted after informed consent was obtained. A convenient sampling method was used. Parents/caregivers were interviewed in the paediatric surgical wards or at the paediatric surgical clinics at CMJAH before or after the patient's surgery. A single investigator conducted all the interviews. The interviews were conducted in the participant's preferred language, with most Black parents/ caregivers being amenable to isiZulu and non-Black parents/ caregivers communicating in English. Parents/caregivers who were in the emergency department were not included in the study. The study was approved by the Human Research Ethics Committee of the University of the Witwatersrand (M191139).

The study data were collected and managed on Research Electronic Data Capture. Data analysis was performed using Stata/SE 16 statistical software (Copyright 1985–2013 StataCorp LP Statistics/Data Analysis StataCorp 4905 Lakeway Drive Special Edition College Station, Texas 77845 USA 800–STATA–PC http://www.stata.com, stata@stata.com).

Normally distributed data were presented as mean and standard deviation, whereas skewed data were presented as median and interquartile range. The Chi-squared test was used to analyse categorical variables. The categorical variables were presented using tables of frequencies and percentages. Logistic regression was used to investigate the factors associated with the parents/ caregivers' perception of suppositories. $P<0.05$ was considered as showing a statistically significant difference.

Table 1: Demographics

Variable	*n* (%)/Median (IQR)
Age of child (months), median (IQR)	24 (6-96)
Age of parent/caregiver (years), median (IQR)	32 (19-59)
Gender (child)	
Female	127 (42)
Male	174 (58)
Surgery group	
Head and neck	55 (18)
Cardiac	20 (7)
Abdominal	139 (46)
Upper limb	15 (5)
Lower limb	48 (16)
Permanent catheter	7 (2)
Examination under anaesthesia	17 (6)
Gender (parent/caregiver)	
Female	262 (87)
Male	39 (13)
Education (parent/caregiver)	
No schooling	3 (1)
<Matric	98 (33)
Completed matric	127 (42)
University	26 (9)
College/technical/vocational	47 (16)
Race	
Black	271 (90)
White	10 (3)
Coloured	9 (3)
Indian	7 (2)
Others	4 (1)
Relationship	
Parent	276 (92)
Caregiver	24 (8)
Employed	
Yes	92 (31)
No	209 (69)

IQR: Interquartile range

Results

Parents/caregivers and children demographics

Three hundred and ten parents/caregivers were approached and 301 completed the interview process. A total of 260 (87%) parents/caregivers were female and 174 (13%) were male, and 276 (92%) identified themselves as the parents and 24 (8%) as caregivers. Two hundred and seventy-one (90%) parents/ caregivers identified as Black, 10 (3%) as White, 9 (3%) Coloured, 7 (2%) Indian and 4 (1%) classified as others. Majority of the children (174, 58%) presenting for surgery were male and 139 (46%) were presenting for abdominal surgery. Table 1 details the demographics of the parents/caregivers and the children.

Initial knowledge and perceptions of suppositories

Many of the parents/caregivers (165, 55%) had prior knowledge of suppositories and 71 (43%) had used these themselves previously [Table 2]. The most common indication (43, 14%) for prior use of suppositories amongst parents/caregivers was constipation, whereas 15 (5%) children had had suppositories before for the treatment of fever. Very few 17 (6%) parents/ caregivers believed that their families would have a problem with the child receiving a suppository. Twenty-eight (9%) parents/caregivers thought that the suppository would affect the child defecating and 63 (21%) thought that it would cause pain.

Acceptance of suppositories

Most of the parents/caregivers (243, 81%) preferred the use of suppositories in children who were asleep. When asked whether they would be comfortable with the use of suppositories in awake children, 225 (75%) parents/caregivers agreed [Table 3]. Majority (235, 78%) felt that they should be asked for permission before their children were given a suppository. More than half (134, 57%) felt that it should be in written consent format. Most of the parents/caregivers (261, 87%) felt that older children should be informed that they

were going to receive a suppository and the median age recommended for consent in children was 11 years.

Factors associated with acceptance of suppositories

Those parents/caregivers who had previously used a suppository were more likely to accept the use of suppositories (unadjusted odds ratio [uOR]: 4.34; 95% confidence interval [CI]: 1.56–12.07; $P = 0.005$) [Table 4]. Similarly, those who did not think that their families would have a problem with the children receiving a suppository, were more likely to accept them (uOR: 4.90; 95% CI: 1.79–13.44; $P = 0.002$). There was no difference between male and female parents/ caregivers and racial groups on acceptance of suppositories. The level of education also did not have an association with acceptance of suppositories. The parent/caregivers did not think that suppositories would cause pain (uOR: 2.49; 95% CI: 1.29–4.79; $P = 0.006$) but were unsure whether they would relieve post-operative pain (uOR: 0.25; 95% CI: 0.11–0.57; $P = 0.001$).

Discussion

Given the lack of data on the attitudes of South African parents towards analgesic suppositories, we conducted a preliminary study to describe perceptions towards suppositories in our population at CMJAH.

The high acceptability of suppositories in our study is echoed in the literature with Keane *et al*.[5] finding that 88% of the parents agreed with the use of suppositories in their children, while Hinton *et al*.[6] showed that 69% accepted the use of suppositories in their children who were awake.

The finding that parents preferred their children to be asleep prior to them receiving a suppository has been demonstrated in the literature.[6] Some of the concerns expressed by the parents were that the awake child would struggle during the insertion of the suppository.[6] Our study showed that parents/ caregivers had fears about the potential complications, safety and the effectiveness of the suppository rather than having concern pertaining to shame, embarrassment and hygiene. This is similar to the findings from Hinton *et al*.[6]

Social influences such as a history of use, individual experience of treatment success and failure and cultural norms shape the decisions on the usage of these therapies.[7] Our study demonstrated that those parents/caregivers who had previously used suppositories were four times more likely to be comfortable with this route of administration in children. This positive relationship between past experience and high acceptability could be related to the perceived efficacy of the rectal route. Most of the parents/caregivers in our study had previously used suppositories to treat fever in their children, and paracetamol was the most common drug that was administered.

The mixed views relating to the need for additional consent when a suppository is going to be administered were echoed in a study by Keane *et al*., where 71% of the parents felt that informed consent was needed.[5] On the contrary, Seth *et al*. showed that the majority of the parents (55%) in their study considered it unnecessary to have additional consent for suppository use while the child was under anaesthesia.[8] The studies, however, showed similar sentiments relating to the type of consent that parents preferred. Keane *et al*.[5]

Table 2: Initial knowledge and perceptions

Variable	Yes, *n* (%)	No, *n* (%)	Unsure, *n* (%)
Initial knowledge			
Have you heard of or know about suppositories?	165 (55)	136 (45)	0
Have you ever received a suppository?	71 (43)	93 (56)	1 (0)
Has your child received a suppository before?	40 (13)	251 (83)	10 (3)
Perceptions towards suppositories			
Had your child been of the opposite sex, would you change your mind about suppositories?	20 (7)	261 (87)	20 (7)
Do you think your family/spouse would have a problem with the child receiving a suppository?	17 (6)	267 (89)	17 (6)
Do you think the suppository would affect the child defecating?	28 (9)	221 (73)	52 (17)
Do you think the suppository would cause pain?	63 (21)	197 (66)	41 (14)
Do you think the suppository would work to relieve pain?	263 (87)	10 (3)	28 (9)

Table 3: Perceptions about consent

Variable	Yes, *n* (%)	*No, n (%)*	Unsure, *n* (%)
Should a caregiver be told that a suppository may be given to a child while they are asleep for an operation?	243 (81)	41 (14)	17 (6)
Should permission be given by the caregiver before the suppository is given to the child?	246 (82)	51 (17)	4 (1)
Should older children be told that they might receive a suppository while asleep for an operation?	261 (87)	39 (13)	1 (0)
If yes, then from what age? (years), median (IQR)	11 (8-15)		
Variable	**Written, *n* (%)**	**Verbal, *n* (%)**	
Should the permission be written or verbal?	134 (57)	101 (43)	

Table 4: Factors associated with acceptance of suppositories

Variable		uOR (95% CI)	*P*
Demographics			
Age of parent/caregiver		1.01 (0.97-1.04)	0.620
Gender of parent/caregiver (Female)		0.73 (0.29-1.84)	0.511
Education			
No schooling		1 (base reference)	
<Matric		3.00 (0.25-35.33)	0.383
Completed matric		1.77 (0.15-20.22)	0.647
University		1.67 (0.13-21.73)	0.697
College/technical/vocational		2.11 (0.17-25.93)	0.559
Race			
Black		1 (base reference)	
White		2.09 (0.26-16.84)	0.490
Coloured		0.29 (0.08-1.12)	0.072
Indian		0.58 (0.11-3.07)	0.521
Age of child		1.00 (0.99-1.00)	0.261
Gender of child (female)		1.04 (0.58-1.86)	0.889
Work		1.08 (0.57-2.02)	0.817
Previous use (parent/caregiver)		4.34 (1.56-12.07)	0.005
Perceptions	**Outcome**	**uOR (95% CI)**	***P***
Had your child been of the opposite sex, would you change your mind about suppositories? (yes/no/unsure)	Yes	1.00 (base reference)	
	No	0.45 (0.10-1.99)	0.29
	Unsure	0.44 (0.07-2.76)	0.384
Do you think your family/spouse would have a problem with the child receiving a suppository? (yes/no/unsure)	Yes	1.00 (base reference)	
	No	4.90 (1.79-13.44)	0.002
	Unsure	0.79 (0.21-3.04)	0.732
Do you think the suppository would affect the child defecating? (yes/no/unsure)	Yes	1.00 (base reference)	
	No	2.20 (0.90-5.40)	0.085
	Unsure	0.90 (0.33-2.47)	0.838
Do you think the suppository would cause pain? (yes/no/unsure)	Yes	1.00 (base reference)	
	No	2.49 (1.29-4.79)	0.006
	Unsure	2.26 (0.86-5.97)	0.100
Do you think the suppository would work to relieve pain? (yes/no/unsure)	Yes	1.00 (base reference)	
	No	0.29 (0.08-1.05)	0.060
	Unsure	0.25 (0.11-0.57)	0.001

uOR: Unadjusted odds ratio, CI: Confidence interval

showed that most of the parents preferred verbal (48%) over written (23%) consent, and Seth *et al*.[8] demonstrated that 27% preferred verbal consent and only 6% wanted written consent. In our study, a greater proportion of parents preferred written consent (57%) to verbal consent (43%).

The preference for written consent is a possible reflection of the population's awareness of the alarmingly high increase in malpractice cases in South Africa. This rise was described as an 'explosion' by a former health minister.[9] Pepper and Slabbert postulate that this dramatic rise in malpractice suits may be related to the public's increased awareness of their legal rights.[10] The negative light that has been cast on the healthcare system could also have led to diminishing levels of confidence and trust from the public. In the United Kingdom, practitioners are required to obtain separate consent for the insertion of a suppository for post-operative analgesia.[11] This followed an incident where an anaesthetist was admonished by the General Medical Council for serious professional misconduct, when a suppository was inadvertently inserted into a patient's vagina without prior informed consent.[11]

Parents/caregivers identified children at a median age of 11 years as being capable of understanding the concept of suppositories and felt that they should also be involved in the conversation around the use of suppositories. In South Africa, the Children's Act recognises that children above the age of 12 years can consent to medical procedures.[12] As young people transition from childhood into adolescence, their thought processes mature. They adopt more abstract thinking, and instead of only thinking of what is, they also consider what might be.[13] This cognitive development could play a role in children aged 10–12 years being able to understand the risks and benefits of an intervention.

The three pillars of informed consent are provision of information about the risks and benefits of the proposed

therapy, capacity and the absence of coercion.[14] Capacity and competency are considered to be related when it comes to consent. In children, the challenge is determining the framework on which to base their competency. Alderson,[15] and Larcher and Hutchinson[16] suggest that a child's competency should not be solely defined according to their age but should also take into consideration the individual's experience, learning and understanding. Therefore, practitioners need to assess the child's maturity and ascertain whether that child can participate in the decision-making process along with the parent.

There were no significant differences in level of education between parents/caregivers. Their acceptance of suppositories was also not influenced by the level of education. Tarimo *et al.* demonstrated that before new interventions could be implemented, there needs to be an engagement with the community with regard to their sociocultural beliefs about the proposed modality.[7,17] A Nigerian study concluded that the high acceptability of artesunate in their population demonstrated that good knowledge and awareness would increase its usage as a rectal preparation.[17] Barker showed that patients were more amenable to the use of suppositories after they had a discussion about suppositories with their doctor.[18]

Limitations and recommendations

Our study involved a small number of parents/caregivers from one hospital in South Africa and therefore caution should be used when generalising to the entire population. The convenient sampling method could also have introduced bias into the study. There is a potential that language discrepancies and misinterpretation of data could have occurred since not all the parents/caregivers were English speaking. The face-to-face nature of the interviews could have elicited more positive responses than would have been obtained from anonymous questionnaires. In our study, the parents/caregivers interviewed were at different stages of their perioperative journey, whereas similar studies either exclusively conducted pre-operative interviews or conducted both pre-operative and post-operative interviews.[5,8,19] This could have been a confounding factor in our study.

There is a need for a qualitative study to further explore the sociocultural beliefs about suppositories. There are also limited data in the literature relating to older children's attitudes towards suppository use, and this could be an area for future research. Similar studies have also graded parents' preference of other routes of administration in relation to suppositories, and it would be interesting to determine these preferences in our population.[8]

Another area of potential research is conducting a health education initiative whereby parents/caregivers are educated about suppositories and pre- and post-interviews are conducted to determine the effect of the intervention. There was a significant proportion of the sampled population who were not familiar with suppositories, therefore, for there to be greater acceptance of this route of administration, there need to be public health strategies to educate the communities about the safety and efficacy of suppositories. Health education is an essential tool in empowering patients about their health and various interventions.[7]

Our study was conducted in an urban part of South Africa where there may be a greater dilution of traditional cultural views because of exposure to other cultures. It would be beneficial to determine whether communities in the rural parts of the country would have stronger cultural beliefs surrounding the use of suppositories.

Conclusion

The current study has shown that there is a high level of acceptance of suppositories amongst parents/caregivers despite perceived sociocultural influences. They expressed the need for additional consent for this route of administration of analgesia and most preferred written rather than verbal consent. Our study showed a strong positive relationship between parents/ caregivers' previous suppository use and their acceptance of suppositories. More research is needed to explore the sociocultural beliefs about suppositories in rural areas and older children's attitudes towards suppositories.

Acknowledgements

We thank the caregivers of the children for participating in the study and the staff at the paediatric surgery, orthopaedic and neurosurgery clinics for their assistance and support.

Financial support and sponsorship

This study was financially supported by the University of the Witwatersrand, Anaesthesiology Department

Conflicts of interest

There are no conflicts of interest.

References

1. Chetty S, Frohlich E, Hodgson E, Kluyts H. Paediatric guidelines. In: Lundgren C, editor. SASA-Acute Pain Guidelines. Lyttelton: Medpharma Publications; ©2016. p. 532-9.
2. Vyvyan HA. A fundamental problem of consent. Rectogenital region is associated with strong cultural and sexual aesthetic beliefs. BMJ 1995;310:937.
3. Johannesburg Hospitals: Charlotte Maxeke Hospital; ©2019. Available from: htttp://www.johannesburghospital.org.za/. [Last accessed on 2019 Jun 26].
4. Statistics South Africa: City of Johannesburg. Johannesburg: Statistics South Africa; ©2021. Available from: http://www.statssa.gov.za/. [Last accessed on 2021 Feb 02].
5. Keane S, Irwin R, Howlett T. Parent and anesthetist attitudes toward rectal analgesic suppositories in pediatric daycase surgery: A multi-center cross-sectional survey. Paediatr Anaesth 2018;28:372-3.
6. Hinton RL, Auwun A, Pongua G, Oa O, Davis TM, Karunajeewa HA, *et al.* Caregivers' acceptance of using artesunate suppositories for treating childhood malaria in Papua New Guinea. Am J Trop Med Hyg 2007;76:634-40.
7. Tarimo DS, Minjas JN, Bygbjerg IC. Perception of chloroquine efficacy and alternative treatments for uncomplicated malaria in children in a holoendemic area of Tanzania: Implications for the change of treatment policy. Trop Med Int Health 2001;6:992-7.
8. Seth N, Llewellyn NE, Howard RF. Parental opinions regarding the

route of administration of analgesic medication in children. Paediatr Anaesth 2000;10:537-44.
9. Gifford G. Medical Malpractice Litigation: Undermining South Africa's Health System. News 24; 17 April, 2018. Available from: https://www.news24.com/amp/health24/news/public-health/medical-malpractice-litigation-undermining-south-africas-health-system-20180417. [Last accessed on 2021 Feb 01].
10. Pepper M, Slabbert M. Is South Africa on the verge of a medical malpractice litigation storm? SAJBL 2011;4:29-35.
11. Mitchell J. A fundamental problem of consent. Br Med J 1995;310:43-6.
12. South Africa. Children's Act 41. 2007
13. Orr DP, Ingersoll GM. Adolescent development: A biopsychosocial review. Curr Probl Pediatr 1988;18:441-99.
14. Cox A, Brannigan C, Harling M, Townend M. The factors that influence decision making by 8-12 year olds in Child and Adolescent Mental Health Services (CAMHS): A systematic review. Res Policy Plan 2016;31:195-209.
15. Alderson P. Competent children? Minors' consent to health care treatment and research. Soc Sci Med 2007;65:2272-83.
16. Larcher V, Hutchinson A. How should paediatricians assess Gillick competence? Arch Dis Child 2010;95:307-11.
17. Sam-Wobo SO, Agbeyangi OA, Ekpo UF, Akinloye OA, Mafiana CF, Adeleke MA. Rectal artesunates, their utilization, and parental perception in the management of malaria in children from Abeokuta, Southwestern Nigeria. Vector Borne Zoonotic Dis 2012;12:151-5.
18. Barker I, Langdon P, Padfield A. Patient consent and rectal drug administration. Anaesthesia 1996;51:402.
19. Vyvyan HA, Hanafiah Z. Patients' attitudes to rectal drug administration. Anaesthesia 1995;50:983-4.