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Department of Pediatrics and child health

Healthcare professionals' knowledge, attitude, and practice of opioid use in pediatric patients at St. Paul Hospital Millennium Medical College Hospital, Ethiopia

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St. Paul Hospital Millennium Medical College

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**Healthcare professionals' knowledge, attitude and practice of opioid use
in pediatric patients in St. Paul Hospital Millennium Medical College
Hospital**

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**A Research Proposal submitted to the Department of [Pediatrics and child health](#); Presented in Partial
Fulfillment of the Requirements for a specialty program in Pediatrics and child health; St. Paul Hospital
Millennium Medical College**

Addis Ababa, Ethiopia

March 2024

DECLARATION

I, the undersigned, Pediatrics and Child Health final year resident declare that this thesis done is my original work in partial fulfillment for the certificate of Pediatrics and Child Health.

Title: -Healthcare professionals' knowledge, attitude and practice of opioid use in pediatric patients in St. Paul Hospital Millennium Medical College Hospital, Addis Ababa, Ethiopia

Submitted by: - Dr. Martha G/tinsae (R3)

Signature -

Date - March 2024

Abstract

Introduction: Pain is a very common symptom in children of all ages. It is a multidimensional phenomenon characterized by sensory, physiological, affective, cognitive, behavioral and spiritual aspects and it is IASP 2022 revised definition of pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”.

The World Health Organization and the American Academy of Pediatrics recommended opioids for pain in children. In the study setting, ineffective use of opioid is one of the reasons for suboptimal pain management, the study will assess Knowledge Attitude and Practice of opioid use in pediatric patient pain management and identify barriers.

Objectives : To assess knowledge, attitude and practice of opioid use at St. Paul Millennium medical college Hospital pediatrics patient for pediatric pain management.

Methods : An institution based Descriptive, cross sectional study was conducted at St. Paul Hospital tertiary hospital, department of pediatrics from Sep- Nov, 2023 Addis Ababa, Ethiopia. Data was collected using Semi-structured questionnaires. Data was entered and analyzed using SPSS version 27. Descriptive analysis was used to describe the data while bivariate and multivariate regression analysis was applied to determine the association between dependent and independent variable. A p-value <0.05 was considered significant with CI of 95%. Tables and figures were used to describe the results.

Result : 220 Participants were involved in the research 64.1%(141) were nurses and 35.9% (79) were residents 54.5% were Degree holders and 79.1 % were with work experience 1-5yr.32.7% were working at NICU during the time of study.Only 35.5% of participants had training on pain management. Qualification masters degree holder were 5.6 folds increase in knowledge on opioid use compared to MD (AOR=5.6, 95%CI=1.03, 30.56) Profession, nurse were 5.7 folds increase its favorable attitude on opioid drug use compared to resident (AOR=5.7, 95%CI=1.21, 27.18)Male sex were 2.3 folds increase opioid use practice compared to female (AOR=2.3, 95%CI=1.19, 4.31) Resident in profession were 2.7 folds increase its practice compared to Nurse. Lack of training in pediatrics opioid use was the main barrier mentioned by study participants Accounting for 94 %.

Conclusion: The knowledge, attitude and practice of health provider on opioid use in pediatric patient were 70%, 41% and 25% respectively. Determinant provider for knowledge were Qualification and Year of experience. Determinant provider for Attitude were Profession and Qualification. Determinant provider for Practice were Gender and profession.

Keywords: Pain assessment, Opioid, Pain management

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Acronyms and Abbreviations

IASP – International association of studying pain

WHO – World health organization

ER – Emergency room

CDC – Center of disease control

1.Introduction:

1.1 Back ground

Pain is a very common symptom in children of all ages. It is a multidimensional phenomenon characterized by sensory, physiological, affective, cognitive, behavioral and spiritual aspects and it is IASP 2022 revised definition of pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”.

Independently of the cause Unbraided pain can affect in long term complications: impact a child's quality of life by snooping with, appetite, academic attendance and performance , mood, sleep, engagement in physical and extracurricular activities. Additionally nonage pain can decrease a child's threshold to pain later in life. Repeated exposure to pain may result altered pain perceptivity, bloodied social interaction, and patterns of self-destructive behavior. Numerous myths, inadequate knowledge among parents and attendants , and shy operation of knowledge also contribute to the lack of effective management.

The World Health Organization and the American Academy of Pediatrics have long recommended the addition of opioids for pain in children that does not respond to acetaminophen or nonsteroidal anti-inflammatory drugs or both.

Opioids are a class of drugs that derive from, or mimic, natural substances found in the opium poppy plant. Opioids are drugs that can alleviate pain by interacting with specific receptors in the brain. It is important to be cautious when using opioids, particularly in the pediatric population, and to seek advice from a healthcare provider. Some opioids may not be appropriate or safe for use in children, though Fentanyl, morphine, and methadone are opioids used in all ages, including neonates. Oxycodone and hydromorphone have US Food and Drug Administration-labeled indications for use in those older than 6 months of age. Hydrocodone is commonly used off-label for patients younger than 2 years.

Currently inadequate analgesia for children remains a worldwide problem. There are also limited studies describing physicians' or nurses ' knowledge, attitudes and practice regarding prescribing opioids to children.

A study from Brazil on pain management in pediatric inpatient wards showed that the most common barriers to pain management included fear of adverse drug reactions, fear of opioid dependence and tolerance, and lack of knowledge or understanding. In comparison, Canadian emergency physician pointed most common barriers as the top 3 reported barriers to prescribing opioids were parental reluctance , lack of clear guidelines for pediatric opioid use and concern about adverse effects.

In the study setting, little is known about effective use opioid, standard usable guideline and no data is available regarding Knowledge Atittude and Practice regarding opioid use in pediatric pain management. Therefore, the study will assess Knowledge Atittude and Practice regarding opioid use in pediatric pain management and identify barriers to and facilitators of opioids use ; and to relate these findings to the physicians' demographic characteristics and achieve optimal pain management.

1.2 Statement of the problem

The use of opioids to treat moderate to severe pain in pediatric patients for specific pain disorders has generally been considered appropriate and necessary, however inadequate analgesia for children remains a worldwide problem. Different studies showed ineffective use of opioid is one of the barrier for suboptimal pain management in pediatrics patient. Currently no general guidelines on opioid usage for analgesia in the pediatric population. The Centers for Disease Control and Prevention (CDC) opioid prescribing guideline for chronic pain states there is limited evidence for children and adolescents, and the population is outside the scope of the guideline. Because of these physicians are caught between providing effective pain management and the risks of opioid therapy.

Recent studies have shown that as opioid prescribing has increased in pediatric patients, the rate of opioid abuse and opioid-related death have also increased among these patients.

But in study area studies are lacking concerning opioid use and practice. This study describes Health care professional practice patterns for prescribing, knowledge and attitudes regarding, and perceived barriers to and facilitators of use of opioids for pediatric pain management.

1.3 Significance of the study

Pain is a universal experience especially in hospitalized children but still widely undertreated, causing suffering and financial loss to individuals and to society. Despite limited guidance on opioid use exists in the pediatric population there are also other barriers which result in limitation to implement fully and raise concerns regarding opioid suboptimal use, the effects of opioid use and abuse. To effectively adjust policy and prepare guideline regarding opioids in the pediatric population knowledge, attitude and practice pattern of the health care professional must be better understood.

This study will help in delivery of information regarding opioid use Knowledge, Attitude, Practice patterns, across demographic factors and other associated factor across health care professionals at St. Paul hospital pediatric department and identify the root cause of ineffective opioid use and sub optimal pain management .

2. Literature review

Pain is a universal health issue that has an impact on individuals across the globe and is considered a significant source of stress. Children, in particular, are at high risk of experiencing pain and not receiving the proper care to manage it. Despite numerous scientific advancements in recent years, there are still various obstacles that must be overcome to effectively manage pediatric pain. As a result, children still experience pain due to ineffective and inefficient pain management. Pain management is a very important aspect of health care and according to the International Association for the Study of Pain (IASP) and Special Interest Group on Pain in Childhood. Pain relief is a human right.

Overall, 20%-35% of children and adolescents are affected by moderate-to severe pain worldwide. Which requires opioid administration. These figures indicate that pain is one of the most common problems which needs medical attention in children. On the contrary, pain management services are not easily available to children in the developing world, where there is difficult to give standard care. Pediatric pain management has been left largely unaddressed due to factors such as limited resources, inadequate training, as well as cultural diversity and language barriers which made sick and injured children not receive basic pain care.

Poor understanding of healthcare professionals is one of the most common problems in children's pain management. Learning about pain management and children's pain behavior might also improve health care professionals' ability to manage pain in children. A previous study also mentioned that not only the knowledge level but also the attitudes of health care professionals 'can affect their ability to give effective pediatric pain management.

There are several obstacles to achieving effective pain management for individuals. These hurdles include a lack of education and assessment tools surrounding pain, a reluctance among some parents to report pain in their children, and an inadequate prescription of pain relief medication from physicians. Moreover, a lack of knowledge surrounding opioids and negative attitudes towards prescribing these medications can also create significant barriers to pain relief. Additionally, insufficient skills in pain assessment and communication can complicate the process of managing pain. Inadequately treated pain leads to: experience unnecessary suffering due to poorly controlled pain, increasing their risk of chronic persistent pain in their adult lives, increase in illness and death rates, changes in the nervous system that ultimately exacerbate and prolong the pain in a way that intensifies spread and prolongs the pain, medical phobias, delayed wound healing, and behavioral changes in children.

Both the World Health Organization and the American Academy of Pediatrics have previously endorsed the use of opioids to manage pain in children when other medications prove ineffective. In cases where a child experiences moderate to severe pain due to certain medical conditions, prescribing opioids has been deemed appropriate and essential. Despite recent advancements in pain management, including increasing the use of opioid , inadequate knowledge and unfavorable attitude of health care professional remain a major barriers to provide effective pain management to children .Personal values and beliefs of physician and nurses about pain significantly affect pediatric pain management. Poor understanding of healthcare professionals is one of the most

common problems in children's pain management. Learning about pain management and children's pain behavior might also improve Health care professionals' ability to manage pain in children. A previous study also

mentioned that not only the knowledge level but also the attitudes of physician and nurses can affect their ability to give effective pediatric pain management. Barriers to effective pain management include the absence of pain education and assessment tools, parents' reluctance to report pain, and insufficient prescription of analgesia by physicians.

Additionally, low levels of understanding regarding opioids, unfavorable perspectives towards recommending opioids, and insufficient abilities in pain assessment can all serve as major obstacles to effective pain relief..

Study from Canadian showed the selection of opioids for second-line management of moderate and severe pain in the emergency department is congruent with international recommendations. Currently, there is an unclear understanding of the likelihood of opioid addiction and misuse in children, and recent studies have generated conflicting evidence on the subject. McCabe and colleagues found that legitimate use of prescription opioids in adolescence was not associated with the development of a substance use disorder; On the other hand, research suggests that the probability of developing substance use disorders is greater for individuals who have previously engaged in the non-medical use of prescription opioids during adolescence. Miech and colleagues reported that prescribing opioids to adolescents was independently associated with a 33% increase in risk of future opioid misuse. Interestingly, Miech and colleagues also reported no associated risk for future opioid misuse among adolescents with reported use of alcohol and illegal drugs.

With the current lack of strong guiding evidence regarding risk of future misuse after medical use of opioids in childhood, it is difficult to conclude how worried physicians "should" be about this risk.

Research related to physician and nurses' knowledge regarding opioid use for pediatric pain management in hospitalized children also remains limited in the study area. To improve both the quality of care and healthcare outcomes, it is essential to explore the level of knowledge and attitude and practice of opioid use in pediatric pain management. So, this article aims to identify physician and nurses' knowledge, attitude, and associated factors toward opioid use in pediatric pain management in ST. Paul Millennium medical college Hospital, pediatrics patient, Addis Ababa, Ethiopia.

3.Objective

3.4.1 General objective :

To assess knowledge , attitude and practice of opioid use for pediatric pain management at St. Paul millennium medical college Hospital department of pediatrics from Sep 1/2023 - Nov 30/2023, Addis Ababa , Ethiopia.

3.4.1 Specific objective :

1. Assess knowledge of pediatric physician and nurses regarding use of opioid in pediatric pain management.
2. Assess Attitude of pediatric physician and nurses regarding use of opioid in pediatric pain management.
3. Assess practice of pediatric physician and nurses regarding use of opioid in pediatric pain management
4. Assess factors affecting Health care professionals Knowledge, Attitude and practice.

4. Methodology

4.1 Study Area

This study was conducted @St Paul HMMC, Department of PCH, Addis Ababa, Ethiopia , which is one of the leading teaching hospitals in Addis Ababa, Ethiopia . Addis Ababa is capital city of Ethiopia, St. Paul Hospital was established in 1969 by Emperor Haile silassie and Upgraded to a teaching hospital for the College of Medicine and Health Science in 2007, with a catchment population of more than 5 million. . The hospital has 13 departments and more than 1200 clinicaland non clinical staff. Pediatrics and Child health is one of the departments where around 15,000 pediatric patients are treated per year. Pediatrics and Child health department has 16 sub specialist 10 specialist 79 residents 151 nurses.

4.2 Study Design

This was a descriptive, Prospective, cross-sectional survey of Health care professionals knowledge, attitude and practice of opioid use in pediatrics patient in St. Paul Hospital Millennium Medical College Hospital.

4.3 Study Period

This study was conducted at the Department of Pediatrics, SPHMMC, Addis Ababa between Sep1 -Nov30, 2023.

4.4 Source population & Study population

4.4.1 Source population

Health care professionals' working in SPHMMC are the source population

4.4.2 Study population

Those working in the Department of pediatrics and child-health during the study period are study population.

4.5 Sample size Determination

All residents and nurses working in the department of pediatrics.

4.6 Inclusion and Exclusion criteria

4.6.1. Inclusion criteria

o All health care physician and nurses working in the department of pediatrics during the study period.

4.6.2 Exclusion criteria

o health care workers on leave and had rotation during the study period.

4.7 Study Variable

4.7.1 Dependent variables

- ✓ knowledge
- ✓ Attitude
- ✓ Practice level

4.7.2 Independent variable

- ✓ Sex
- ✓ Profession
- ✓ Educational status(Qualification status)
- ✓ Trained on pediatric pain management
- ✓ Area of service
- ✓ Work experience

4.8 Operational definition

Knowledge: means the Health professionals' perception and understanding of opioid use based on experience. This categorize as good knowledge and low knowledge

Good Knowledge: is the Knowledge Status of Health professional when they Score above the mean

Low knowledge: is the Knowledge Status of Health professional when they Score below the mean

Attitude: refer to the Health professionals' behavior and way of acting towards effective opioid use. This is categorized as Favorable attitude and Unfavorable attitude.

Favorable attitude: is the category of Health professional when they are able fulfill all the presented attitude questions above the mean value.

Unfavorable attitude: is the category of Health professional when they fulfill all the presented attitude questions below the mean value.

Practice: Means the Health professional skill of opioid use in pediatric patient on their experience.

Good practice: is the practice Status of Health professional when they can answer the presented questioner above the mean score.

Bad practice : is the practice Status of Health professional when they can answer the presented questioner below the mean score.

4.9 Data collection tool and procedure

A semi structured Pretested self-administered questionnaire was Prepared after thorough review of different literature and was used to collect the data. Questionnaires were prepared in English. The survey included 23 questions regarding Demographics characteristics of the participants including Gender, year of experience, Profession, Qualification, Area of service, formal training regarding opioid use for pediatric pain management, knowledge, attitudes, Practice and perceived barriers. Questioner was prepared in google form and distributed through electronic media for participants to fill.

4.10 Data Quality assurance

A pretest was done on 5% of the study sample (will not be included in main study) before actual data collection to check for data availability. The collected information was checked for consistency and completeness on the same day by the principal investigator.

4.11 Data Analysis Plan and Procedures

Data was entered, cleaned and analyzed using SPSS V27. Descriptive statistics were used to Analysis were used to explain the sociodemographic variable. We performed bi-variate binomial logistic regressions used to see the cause and effect relationship between clinically significant variables (e.g. Gender, Profession, training, Area of service, experience, educational qualification,) on knowledge , attitude and practice of Health care professionals' use of opioid in pediatrics pain management. Statistical significance was measured by p-values < 0.05 and adjusted odds ratio (AOR) with 95% confidence interval (95% CI).

4.12 Ethical Clearance

Ethical clearance was obtained from St. Paul Millennium medical college, Research and Community Service Review Committee (RCSRC). All the study participants was informed about the purpose of the study and their right to refuse participation. Informed, written voluntary consent was obtained from study subjects prior to distributing the questionnaire. The respondents was also told that their information will be treated with complete confidentiality and will not cause any harm to them.

4.13 Dissemination of Results

The result will be presented to pediatrics and child health department as a thesis defense. The copies of final results will be submitted to SPMMC and will be distributed to library, postgraduate office and Federal Ministry of Health. Lastly it will be presented on workshops and seminars and will be sent for publication to reputable national and international journals.

5. Result

5.1 Sociodemographic characteristics of the study participants

Majority (57.3%) of the study participants were male and 64.1% were nurses and 54.5% were degree holder. 32.7% of the study participants were work in NICU and 79.1% were 1-5 years of work experience and 64.5% never received pain management training during the study period.

Table 1.The sociodemographic characteristics of health provider who works in pediatric units of SPHMMC, 2024.

Variable	frequency	Percent
Gender		
Male	94	42.7
female	126	57.3
Profession nurse		
Resident	79	35.9
Nurses	141	64.1
Qualification		
MD	65	29.5
Degree	120	54.5
masters	35	15.9
Area of service		
EOPD	53	24.1
WARD	53	24.1
PICU	29	13.2
ROPD	13	5.9
NICU	72	32.7
Year of experience		
1-5	174	79.1
6-10	44	20
11-15	2	0.9
Ever get pain management training		
Yes	78	35.5
No	142	64.5

5.2 Knowledge of the study participants and the determinant

The overall knowledge of the study participants were 70% Good knowledge while 30% were poor knowledge as shown in the figure below.

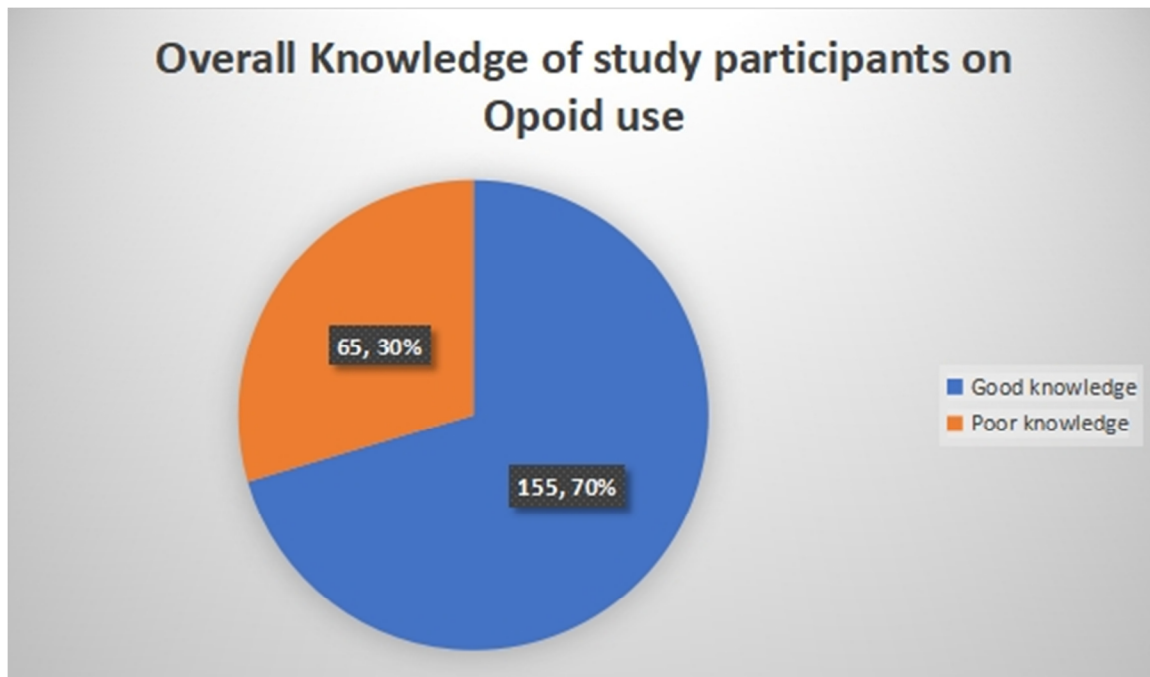


Figure 1. The overall knowledge of the study participants.

Regarding to the specific types of knowledge assessment questions, 85.5% of the participants were aware the WHO analgesics ladder of pain management and 93.2% of the participants know the moderate to severe pain management by using Oral/IV opioid analgesics. 56.3% of the study participants didn't agree on the use of opioid for mild pain as shown in the table below.

Table 2. The knowledge of the study participants on Opioid use at pediatric unit of SPHMMC, 2023.

Variable	frequency	Percent
aware of WHO analgesics ladder of pain management		
No	32	14.5
Yes	188	85.5
Oral/Iv opioid analgesics are the mainstay approach for the treatment of moderate to severe pain in pediatrics?(n=188)		
no	10	5.4
yes	178	94.6
Oral opioid therapy is mainstay approach for the treatment of mild pain in pediatric?(n= 188)		
No	112	59.5
Yes	76	40.5
Administration of opioid in SOS dosing schedule can decrease the harmful effect of opioid such as addiction or adverse effects?		
No	53	24.1
Yes	167	75.9
If a patient is prescribed opioids analgesics for long, they are bound to get addicted?		
No	26	11.8
Yes	194	88.2

5.2.1 The determinant of knowledge on opioid use among health provider in pediatric unit

The strength of association was measured using odd ratio and 95%CI. Accordingly, **Year of experience** and **Qualification** were an association with knowledge of the study participants on opioid drug use for pediatrics. The multivariate logistic regression revealed that study participant whose qualification of masters degree were 5.6 folds increase its knowledge on opioid use compared to MD (AOR=5.6, 95%CI=1.03, 30.56) and study participant having 6-10 years of experience were 61% less likely of having Good knowledge on opioid use compared to experience of 1-5 years (AOR=0.39, 95%CI=0.19, 0.79).

table 3. The association of independent variable and knowledge on opioid use using bivariate and multivariate logistic regression.

variable	knowledge		P-Value	COR with 95%CI	P-Value	AOR with 95%CI
	good	poor				
Sex						
Male	70	24	0.261	1.4(0.78, 2.55)	0.154	0.64(0.34, 1.19)
female	85	41	1		1	
Profession						
Resident	54	25	1		1	
Nurses	101	40	0.109	1.2(0.64, 2.13)	0.679	0.75(0.189, 2.96)
qualification						
MD	43	22	1		1	
Degree	82	38	0.762	1.1(0.58, 2.09)	0.495	1.6(0.39, 6.89)
Masters	30	5	0.041	3.1(1.05, 9.01)	0.046	5.6(1.03, 30.65)
Year of experience						
1-5	129	45	1		1	
6-10	25	19	0.026	0.46(0.23, 0.91)	0.010	0.39(0.19, 0.79)
11-15	1	1	0.460	0.35(0.02, 5.69)	0.582	0.45(0.03, 7.56)

5.3 Attitude of the study participants and the determinant

The finding of the study showed that 41% of the study participants were favorable attitude while 59% were unfavorable as shown in the figure below.

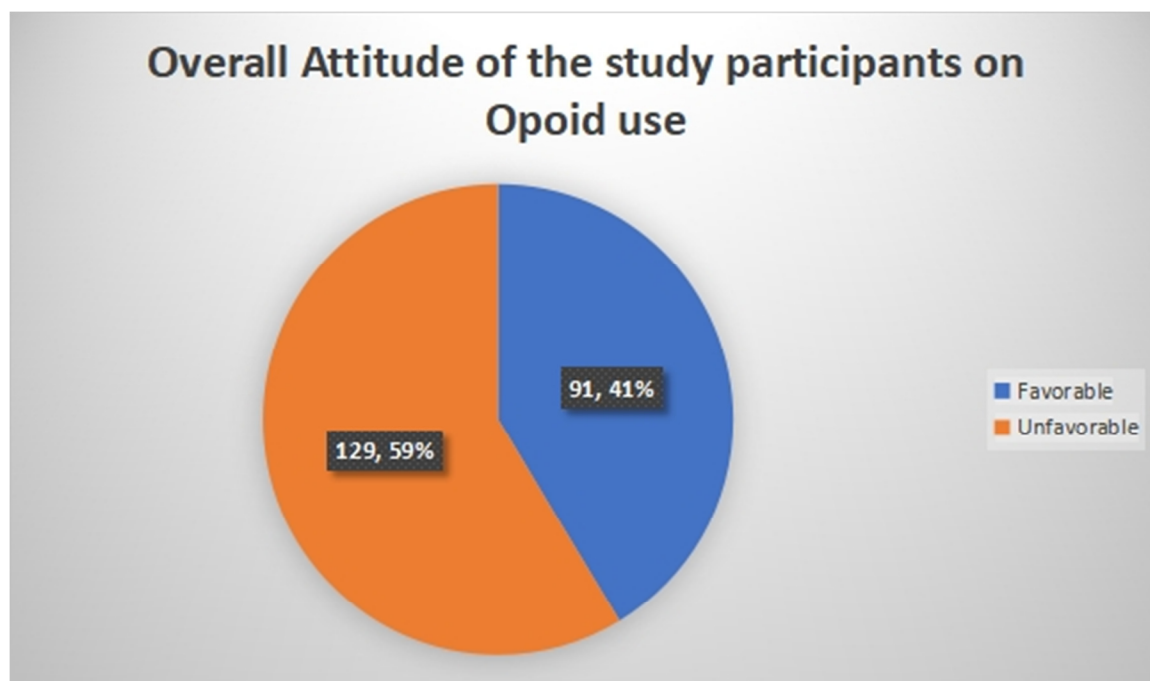


Figure 2. The overall attitude of the study participants on opioid use

Eight-one percent of the study participants were agreed on getting worry/ discomfort about children developing physical dependence when opioid is prescribed to treat pain in pediatric patients and 44.5% agree and 8.2 % were neutral on the idea of opioid dosage patients receive should be much lower than that required dosage so as to avoid addiction or adverse effects. 59.1% of the participants did agree on the idea of opioid Analgesics are under prescribed in pediatric patients as shown in the table below.

Table 4. Attitude related characteristics of the study participants on opioid use in pediatrics.

Variable	frequency	Percent
Do you get worry/ Discomfort about children developing physical dependence when opioid are prescribed to treat pain in pediatric patients?		
Not sure	5	2.3
Disagree	36	16.4
Agree	179	81.4
The opioid dosage patients receive should be much lower than that required dosage so as to avoid addiction or adverse effects?		
Not sure	18	8.2
Disagree	104	47.3
Agree	98	44.5
opioid Analgesics are overprescribed in pediatric patients		
Not sure	41	18.6
Disagree	134	60.9
Agree	45	20.5
Opioid analgesics are under prescribed in pediatric patients?		
Not sure	38	17.3
Disagree	52	23.6
Agree	130	59.1

5.3.1 The determinant of attitude on opioid use among health provider in pediatric unit

The Bivariate and multivariate finding of the study revealed Statistically significant association between

Variable	Attitude	p-	COR with 95%	p-	AOR with 95%CI
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Profession and Qualification with Attitude of study participants. In the study

participant whose **profession** of nurse were 5.7 folds increase its favorable attitude on opioid drug use compared to resident (AOR=5.7, 95%CI=1.21, 27.18) and study participant who were a degree qualification were 75% less likely of favorable attitude than MD (AOR=0.25, 95%CI=0.05, 0.65).

Table 5. The association of independent variable and Attitude on opioid use using bivariate and multivariate logistic regression.

	favorable	unfavorable				
Profession						
Resident	27	52	1		1	
nurse	64	77	0.106	1.6(0.90, 2.83)	0.028	5.7(1.21, 27.18)
Qualification						
MD	25	40	1		1	
Degree	50	70	0.072	1.1(0.62, 2.12)	0.041	0.25(0.05, 0.65)
Masters	16	19	0.482	1.3(0.59, 3.09)	0.148	0.29(0.05, 1.56)
Area of service						
EOPD	21	32	1		1	
Ward	21	32	1.00	1.0(0.46, 2.18)	0.731	1.2(0.52, 2.56)
PICU	7	22	0.161	0.49(0.18, 1.34)	0.144	0.47(0.17, 1.29)
ROPD	6	7	0.668	1.3(0.39, 4.43)	0.418	1.7(0.46, 6.34)
NICU	36	36	0.251	1.5(0.74, 3.13)	0.236	1.6(0.75, 3.31)
Score of knowledge						
Poor	29	36	1		1	
good	62	93	0.265	0.83(0.46, 1.49)	0.479	0.80(0.44, 1.48)

overall practice of the study participants was 25% and 75% of the participants had Good and Poor practice on opioid use respectively.

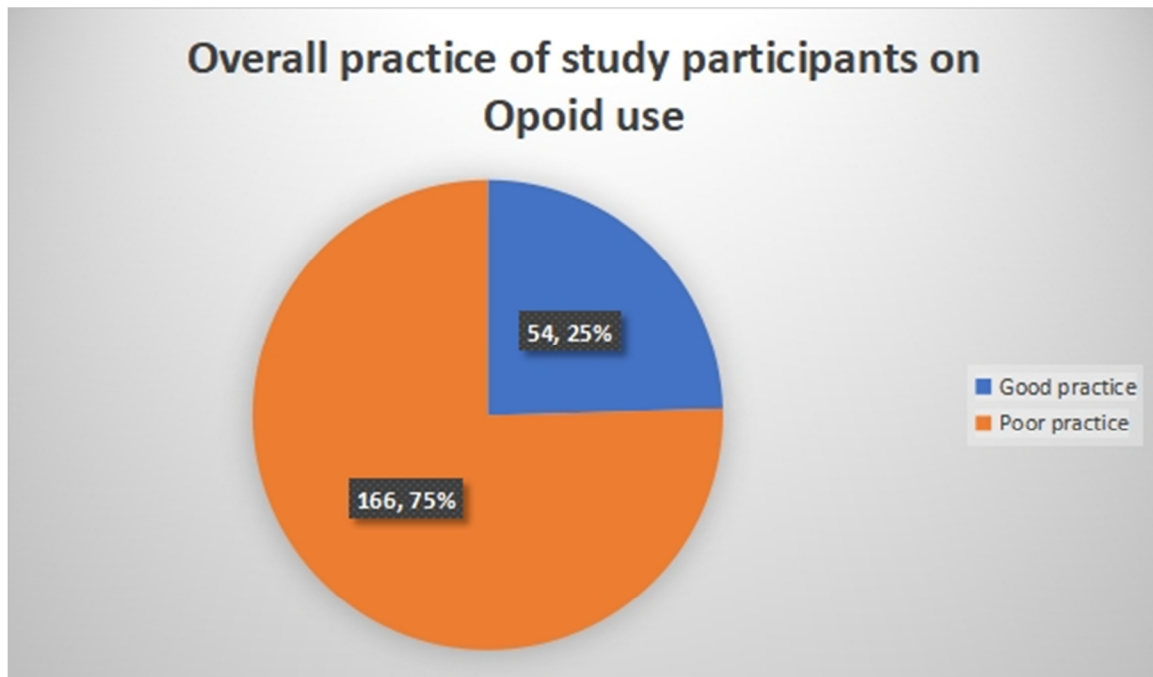


Figure 3. The overall practice of the study participants on opioid use in pediatric units.

The finding of the study showed that 92.1% of the study participants did prescribed opioid analgesics for pediatric patients and 7.3 % of participants never prescribed opioid and the most mentioned reason for failed to prescribe was because of scope of Job description accounting for 50 %. Most prescribed opioid was Morphine

but it was prescribed by only 66.7% of participants. Fentanyl was prescribed by 14.2 % of participants. And additionally there was 14.2% of participants prescribed NSAID considering as opioid which affected the practice of use. 50.9% of the study participants were agree on the misuse of opioid.

Table 6. practice related characteristics of the study participants on opioid use.

Variable	frequency	Percent
Have you ever prescribed opioid analgesics for pain management in pediatric-patients		
No	16	7.3
Yes	204	92.1
Have you ever prescribed drugs (n=204)		
morphine	136	66.7
Fentanyl	29	14.2
Tramadol	43	21
Pethidine	3	1.5
NSAID	29	14.2
Reason for never prescribed (n=16)		
Not comfortable	4	25
Job description	8	50
Fear of addiction	4	25
Diversion and misuse of opioid pain medicine are a problem in my practice		
Not sure	50	22.7
Disagree	58	26.4
Agree	112	50.9
Naloxone (N- allyl noroxymorphone) is the drug of choice in case of opioid over dose		
Not sure	41	18.6
Disagree	19	8.6
Agree	160	72.7

5.4.1 The determinant of Practice on opioid use among health provider in pediatric unit

The finding of the study revealed that study participant who were male were **2.3 folds increase opioid use** practice compared to female (AOR=2.3, 95%CI=1.19, 4.31) and study participant who were Resident in profession were **2.7 folds increase** its practice compared to Nurse.

Table 7. The association of independent variable and practice of opioid use using bivariate and multivariate logistic regression.

Variable	Practice on opioid use	P-	COR with 95%CI	p-value	AOR with 95%CI
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	Good	Poor	value			
sex						
male	32	62	0.005	2.4(1.30, 4.57)	0.013	2.3(1.19, 4.31)
female	22	104	1		1	
Profession						
Resident	27	52	0.014	2.2(1.17, 4.10)	0.014	2.7(1.79, 9.13)
Nurse	27	114	1		1	
Qualification						
MD	22	43	1		1	
Degree	27	93	0.097	0.57(0.29, 1.11)	0.564	1.5(0.41, 5.27)
Masters	5	30	0.041	0.33(0.11, 0.96)	0.831	0.85(0.19, 3.79)
Knowledge						
Poor	15	50	1		1	
good	39	116	0.743	1.1(0.56, 2.22)	0.642	1.2(0.58, 2.44)
Attitude						
Unfavorable	30	99	1		1	
Favorable	24	67	0.597	1.2(0.64, 2.19)	0.303	1.4(0.73, 2.72)

5.5 Barriers of opioid drugs use among health provider work in pediatric units

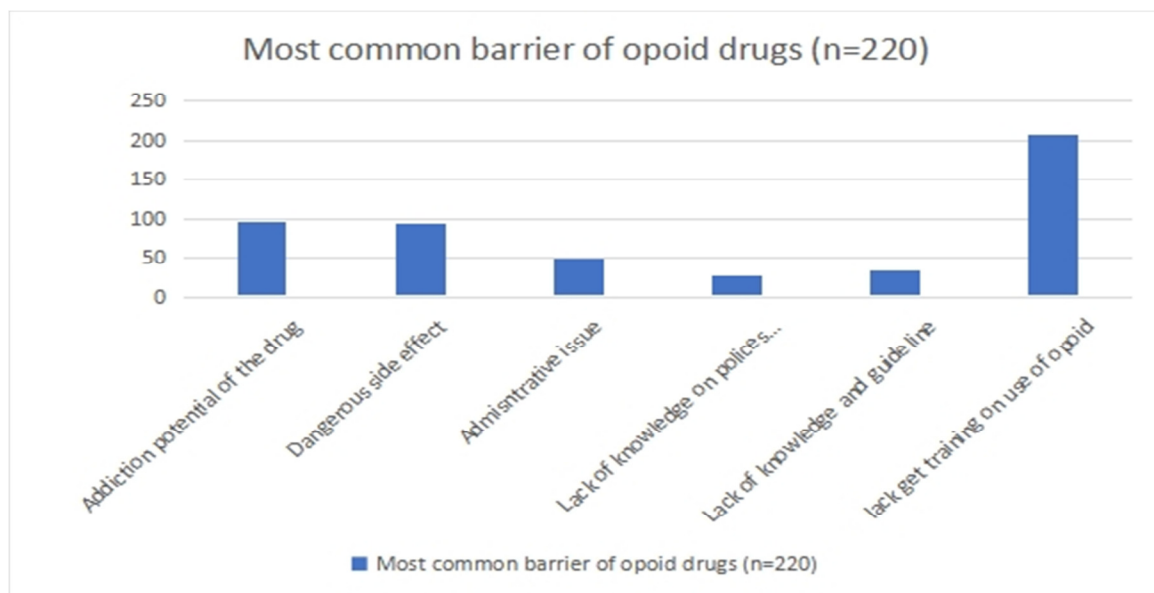


Figure 4. Barriers on opioid drugs use among health provider work in pediatric units

6. Discussion

Opioids are sometimes used in pediatric patients for the management of acute pain, such as after surgery or due to traumatic injury. They can provide effective pain relief when used appropriately. Healthcare providers exercise caution when prescribing opioids to pediatric patients, considering factors such as the child's age, weight, medical history, and the severity of pain. They often start with the lowest effective dose for the shortest duration possible to minimize the risk of adverse effects. Certain pediatric populations may require special considerations when prescribing opioids, such as neonates, infants, and children with underlying medical conditions. Ongoing research aims to better understand the safety and efficacy of opioids in pediatric patients and to develop evidence-based guidelines for their use. There for this study assessed the knowledge attitude and practice of the study participant on opioid use. Accordingly, the finding of the study showed that 70%, 41% and 25% of the study participants had good knowledge, attitude and practice respectively. the lower level of attitude and practice of the study participants were may be due to healthcare providers may lack comprehensive education and training on the appropriate use of opioids, especially in pediatric. Limited exposure to pediatric pain management protocols and guidelines may contribute to uncertainty or reluctance in prescribing opioids. This was evidenced by the finding of only 35.5% were received training on opioid use in pediatrics.

Stringent regulatory guidelines and policies surrounding opioid prescribing, particularly in pediatric populations, may influence healthcare providers' attitudes and practices. As evidenced by 85.5% of the participants were aware of WHO analgesics ladder of pain management. Compliance with prescribing regulations and concerns about potential audits or sanctions may deter providers from prescribing opioids unless absolutely necessary.

that study participant whose qualification of master's degree were 5.6 folds increase its knowledge on opioid use compared to MD (AOR=5.6, 95%CI=1.03, 30.56). this was may be due to some master's degree programs, such as those in nursing may offer specialized training in pediatric pharmacology and pain management, including the use of opioid drugs. This focused education may provide these professionals with a deeper understanding of pediatric pain management principles and opioid pharmacology. Master's programs in fields like nursing often emphasize interdisciplinary collaboration and teamwork. Professionals with these degrees may have experience working closely with pediatricians, pediatric specialists, and other healthcare providers to develop comprehensive treatment plans for pediatric patients, including the appropriate use of opioid drugs.

study participant having 6-10 years of experience were 61% less likely of knowledge on opioid use compared to experience of 1-5 years (AOR=0.39, 95%CI=0.19, 0.79). this was may be due to medical knowledge, including understanding of opioid pharmacology and pain management, is constantly evolving. Experienced healthcare providers may become complacent and fail to keep up with the latest research, guidelines, and recommendations in the field.

study participant whose profession of nurse were 5.7 folds increase its favorable attitude on opioid drug use compared to resident (AOR=5.7, 95%CI=1.21, 27.18). This was may be due to Nurses often have extensive experience working directly with pediatric patients and administering medications, including opioids. This hands-on experience can provide them with a practical understanding of opioid use in pediatric settings, leading to a more confident and positive attitude toward opioid management. Nurses are frequently involved in direct patient care and may develop close relationships with pediatric patients and their families. This patient-centered perspective may foster a compassionate and empathetic approach to pain management.

study participant who was resident in profession were 2.7 folds increase its practice compared to nurse. This was may be in many healthcare systems, physicians, including residents, typically have the authority to prescribe medications, including opioids, whereas nurses may administer medications under the direction of a physician's orders. This difference in prescribing authority can influence the frequency of opioid use between the two groups. Physicians, including residents, are trained to diagnose medical conditions, develop treatment plans, and prescribe medications based on their assessment of patient needs and clinical guidelines. Nurses, while essential members of the healthcare team, may have a more limited scope of practice when it comes to prescribing medications.

7. Conclusion

The knowledge, attitude and practice of health provider on opioid use in pediatric patient were 70%, 41% and 25% respectively. the determinant of providers knowledge on opioid use in pediatrics were qualification of master's degree compared to MD (AOR=5.6, 95%CI=1.03, 30.56) and having 6-10 years of experience compared to experience of 1-5 years (AOR=0.39, 95%CI=0.19, 0.79). the determinant of providers attitude on opioid use were whose profession of nurse (AOR=5.7, 95%CI=1.21, 27.18) and degree qualification than MD (AOR=0.25, 95%CI=0.05, 0.65) and the determinants of study participants practice on opioid use male in sex (AOR=2.3, 95%CI=1.19, 4.31) and resident in profession were 2.7 folds increase its practice compared to nurse.

8. Recommendation

Prepare training and refreshing educational sessions to upgrade the level of KAP in Health care providers regarding opioid use for pediatric pain management .

Focus should be given and act on attitude and practice of Health care provider.

Develop Guidelines and policy should mainly point to wards making things more practical in addition to Knowledge.

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10. Annexe

Demographic Data

1. Gender

Female

Male

3. Profession

Resident

Nurse

4. Qualification

Diploma

Degree

Masters

Other

5. Area of service

Ward

Eopd

Ropd

PICU

NICU

6. How many years have you worked in clinical practice?

In Pediatrics _____ years /months.

Other than pediatrics _____ years/months

7. Have you ever get pain management training

Yes

No

Knowledge

1. Are you aware of the WHO analgesic ladder of pain management?

Yes

No

2. Oral/IV opioid therapy is the mainstay approach for the treatment of moderate-to-severe pain in pediatrics

Agree

Disagree

Not sure

3. Oral opioid therapy is the mainstay approach for the treatment of mild pain in pediatrics

Agree

Disagree

Not sure

4. Administering opioids in an SOS dosing schedule can decrease the harmful effect of opioids such as addiction or adverse effects

Agree

Disagree

Not sure

5. If a patient is prescribed opioids analgesics for long, he is bound to get addicted

Agree

Disagree

Not sure

Attitude

1. do you get worry/discomfort about children developing physical dependence when opioids are used to treat pain in pediatrics patient ?

Agree

Disagree

Not sure

2. The opioid dosage patients receive should be much lower than the required dosage so as to avoid addiction or adverse effects

Agree

Disagree

Not sure

3. Opioid analgesics are overprescribed for patients with pain in pediatrics ?

Agree

Disagree

Not sure

4. Opioid analgesics are Under prescribed for patients with pain in pediatrics ?

Agree

Disagree

Not sure

Practice

1. Have you ever prescribed opioid analgesics for pain management in pediatric patients.

yes

NO

Not sure

2. Which opioids do you most frequently prescribe for moderate to severe pain management in pediatrics

3. If you have never prescribed opioid before, for what reason is that so?

4. Are diversion and misuse of opioid pain medicines a problem in your practice?

Agree

Disagree

Not sure

5. Naloxone (N-allylnoroxymorphone) is the drug of choice in case of opioid overdose?

Agree

Disagree

Not sure

Barrier

1. Please mark your reason as barrier to prescribing opioid analgesia as moderate to severe pain management in pediatric patients.

A. Dangerous adverse effect profile of the medication

B. Addiction potential of opioid analgesics

C. Administrative burden of record keeping (not getting the prescription)

D. Lack of information about policies regarding opioid analgesia

E. Lack of knowledge / training on opioid analgesia pain management

2. I would like to obtain further training and education on the policies and guidelines regarding prescription of opioid analgesics in pediatric patients as pain management.

Agree

Disagree

Not sure