

## PATTERN OF ANALGESIC USAGE IN THE RURAL ELDERLY, BANGALORE URBAN DISTRICT-A CROSS SECTIONAL STUDY

Swathi H. N<sup>1</sup>, B. Vilekith Reddy<sup>2</sup>, Aubrey Franco<sup>3</sup>, Menda Manoj Kumar<sup>4</sup>, Deepthi Shanbhag<sup>5</sup>

<sup>1</sup>Assistant Professor, Department of Community Medicine, K. S. Hegde Medical Academy, Mangalore.

<sup>2</sup>Medical Officer, St. John's Medical College, Bangalore.

<sup>3</sup>Post Graduate, Department of Community Medicine, M. S. Ramaiah Medical College.

<sup>4</sup>Medical Officer, St. John's Medical College, Bangalore.

<sup>5</sup>Associate Professor, Department of Community Medicine, St. Johns Medical College, Bangalore.

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### ABSTRACT

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#### BACKGROUND

Pain is one of the most common complaints that the elderly come with and oral analgesics are most commonly prescribed to give temporary relief for the pain. Due to a lack of understanding of the usage and side effects of the analgesics and due to them easily available over the counter and due to persistence of pain they are most commonly abused. Very little has been studied on the same topic.

#### OBJECTIVE

This study was conducted to assess the prevalence of analgesic abuse in elderly population in few villages of Bangalore Urban District.

#### METHODS

A cross sectional study was conducted from November 2013 to January 2014 in 14 villages of 2 sub center areas of a PHC. The sample size was calculated to be 295 by using the prevalence studies. A pre tested interview schedule administered questionnaire was used as a tool for data collection.

#### RESULTS

Of the 295 sample size 38.3% had aches and pains; of which 59% were on pain medications; of which 46.26% were consuming them daily; 26.3% were taking them less than 7 times a week; and the remaining 28.27% were using them occasionally. 22.38% of the analgesic users had the knowledge of side effects; 29% of the analgesic users experienced side effects. Some of them (1.49%) had serious side effects requiring hospitalization, 38.8% of people insisted on injectable analgesics, 35.8% of analgesic users, abused analgesics with no prescription ever.

#### CONCLUSION

Prevalence of analgesic use was found to be 22.7% and the prevalence of analgesic abuse was found to be 8.1%.

#### KEYWORDS

Analgesic, Pain, Elderly, Rural, India.

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**INTRODUCTION:** The elderly comprises of 12% of the world's population by 2050 the percentage is expected to jump up to 22%. In India 8% of the population comprise of the elderly. One of the most common problems experienced by the elderly is aches and pain. Be it joint pains, headaches or stomach aches approximately 50% of the elderly living by themselves experience aches and pains and 75% to 80% of the elderly living in care giving homes experience aches and pains. Most of these pains are due to physiological changes occurring as the age advances and most of them

tend to be chronic.<sup>1,2</sup> When they approach a doctor they are mostly put on oral analgesics for a short duration. Due to persistence of pain and due to availability of oral analgesics over the counter elderly tend to obtain the medications and continue using them.<sup>3,4</sup> Due to the lack of knowledge about the method of usage of medications and about the side effects of the medications they are most often abused leading to serious side effects.<sup>5,6</sup> Very little has been studied about this topic in the world and no published study was found in India.<sup>7</sup>

**METHODOLOGY:** This cross sectional study was conducted from November 2013 to January 2014 in 14 villages of 2 sub-centers of Sarjapur PHC. The demographics of the village were available in the Anganwadi Center of the particular village. The demographics were updated annually. From the Anganwadi Center, the population of each village is obtained from which the total population of elderly in the sub-centers

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Corresponding Author:

Dr. Swathi H. N,

Assistant Professor, Department of Community Medicine,  
K. S. Hegde Medical Academy, Mangalore.

E-mail: swathi.halepattanashetter@gmail.com

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were obtained. The sample size was calculated using the formula ( $Z^2pq/d^2$ ) using the prevalence from previous studies.<sup>8</sup> All the villages in the two sub-centers were included in the study. The sample size for each individual village was calculated by population proportional to size of village. Subjects were chosen by convenient sampling. People more than 60 years of age and residing in the village for more than one year in the villages are included in the study. Elderly with cognitive defects and moribund were excluded from the study.

After obtaining informed written consent a pre-tested interviewer administered questionnaire was used to collect the data. Prescription and/or strips of the drugs were reviewed to obtain the information about the chemical names of the drugs in use. The recall period of 6 months was set for most of the concerned questions. Oral analgesics users were classified based on the frequency of usage as daily users, using less than 7 times a week and occasional users. Information regarding the method of obtaining the medication that is with a prescription and without a prescription, preferred route of administration of the drug, knowledge about the usage of the given medication, about its side effects and information regarding the side effects experienced and hospitalizations if any due to the side effects was obtained.

The obtained data was analysed using SPSS version 16 and results were expressed in frequencies, proportions and tests of significance.

**RESULTS:**

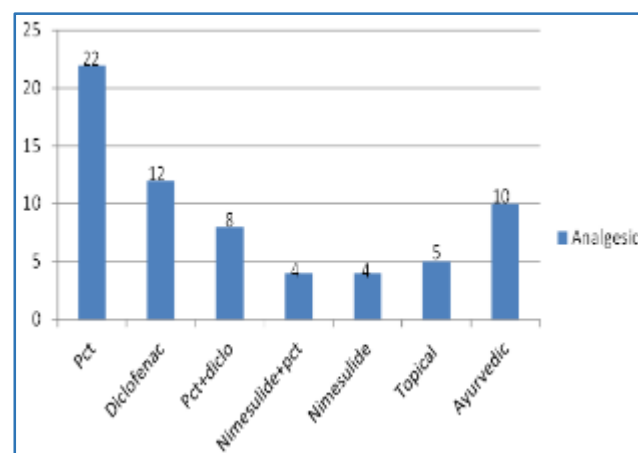
Sl. No.	Parameters	Categories	Frequencies (Proportions)
1	Gender	Male	157(53.22%)
		Female	138(46.78%)
2	Education	No	207(70.4%)
		Primary (<5th std)	36(12.1%)
		Middle (5th-7th std)	22(7.5%)
		High (9th-10th std)	21(7.1%)
		College (>10th std)	9(2.9%)
3	Family type	Nuclear	90(30.5%)
		Three generation	180(61.1%)
		Joint	25(8.4%)
4	Current Occupation	Agriculture	101(34.24%)
		Manual labourers	53(17.97%)
		Self employed	5(1.69%)
		unemployed	123(41%)
5	Economic status	BPL	252(85.3%)
		APL	43(14.7%)

**Table 1: Demographic details of the elderly subjects of the study**

Of the collected sample size of 295, males outnumbered females. Most of them were illiterates, followed by primary, middle school, high school education and college education respectively. Most of them were living in third generation families followed by joint families and nuclear families.

Majority of the males were agriculturists followed by manual labourers and petty shops owners, 41% were unemployed and others did not disclose their occupation. Most of the females were homemakers followed by agriculturists, manual labourers and petty shops owners. Most of them had BPL cards.

**Analgesic Use:** Among 295 subjects, 113(38.3%) had aches and pains. Of them 67(59.2%) were consuming analgesic medications. Of those who were consuming analgesics, most of them (46.26%) were taking analgesics daily, 17(25.39%) were taking less than seven times a week, and the remaining 21(28.27%) were taking medications occasionally. The most commonly used analgesic was only paracetamol (32.8%), followed by diclofenac (17.9%), 6% were found to use nimesulide, 11.9% used a combination of diclofenac and paracetamol, 7.7% used a combination of nimesulide and paracetamol, 8.9% used topical applications, 14.9% used Ayurvedic medications.



**Fig. 1: Proportion of usage of different analgesics**

Of the 67 people 26 (38.8%) insisted for injectable analgesics when they visited health care givers, giving the reason that their pain is not controlled by oral analgesics; 24 (35.8%) Of the 67 people 26 (38.8%) insisted for injectable analgesics when they visited health care givers, giving the reason that their pain is not controlled by oral analgesics. Of the 67, 24 (35.8%) were found to abuse the prescribed analgesics and rest of them were using over the counter analgesics.

Of the 67 (59.2%) people, 15 (22.38%) had the knowledge of the side effects of the medications, and the remaining 52 (77.62%) had no knowledge of the side effects. Of the 67 people, 20 (29.85%) experienced side effects which included gastritis, giddiness, to mention the common few. One person (1.49%) had perforation of gastric ulcer.

**DISCUSSION:** The study conducted among the elderly identified the extent of use of over the counter oral analgesics. The daily usage of analgesics is comparatively higher in the study region (10.51%) as compared to Finland (8.5), where a similar study was conducted, but the usage of analgesics less than 7 times a week was found to be lower

(5.7%) than in Finland.<sup>9</sup> Data regarding the occasional users was not found. No studies were found in India to compare.

In the study it was found that many elderly had no knowledge of the adverse effects of the medications drugs like paracetamol are hepatotoxic and can cause gastritis and rarely causes blood dyscrasias. Diclofenac overuse can cause gastritis, tinnitus, ulcerations in stomach, renal failure, hepatitis, seizures and many other severe side effects.<sup>10,11</sup> Usage of nimesulide was found. Nimesulide was banned due to its adverse effects which include liver failure, kidney failure, dizziness and drowsiness to mention a few.<sup>12,13</sup>

It was found that the study population suffered from a few of the above mentioned medications, but continued to use the medications which can lead on to more severe side effects.

**CONCLUSION:** The abuse of analgesics among elderly is understudied due to various reasons. Prevalence of analgesic use was found to be 22.7% and the prevalence of analgesic abuse was found to be 8.1%. Overuse of analgesics particularly in conditions with chronic pain was seen which the knowledge of usage of medications and their side effects is extremely low in the study population. Usage of harmful banned analgesics like nimesulide was found. The elderly in that village also had better understanding of the usage of analgesics and their side effects; they also did not suffer from a lot of side effects. Thereby this study brings up the problem of abuse of analgesics by the elderly and the importance of health education regarding the same.

**RECOMMENDATIONS:** Alternative measures like hot compressions should be encouraged to prevent the adverse effects of over use of over-the-counter medications.

Strict legislations need to be in place for the control of over the counter drugs.

**LIMITATIONS:** Questionable external validity of the study, due to smaller sample size and convenient sampling method.

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