



CITUC
Información Toxicológica

CHARACTERISATION OF TRAMADOL EXPOSURE REPORTED TO THE POISON INFORMATION CENTER, PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

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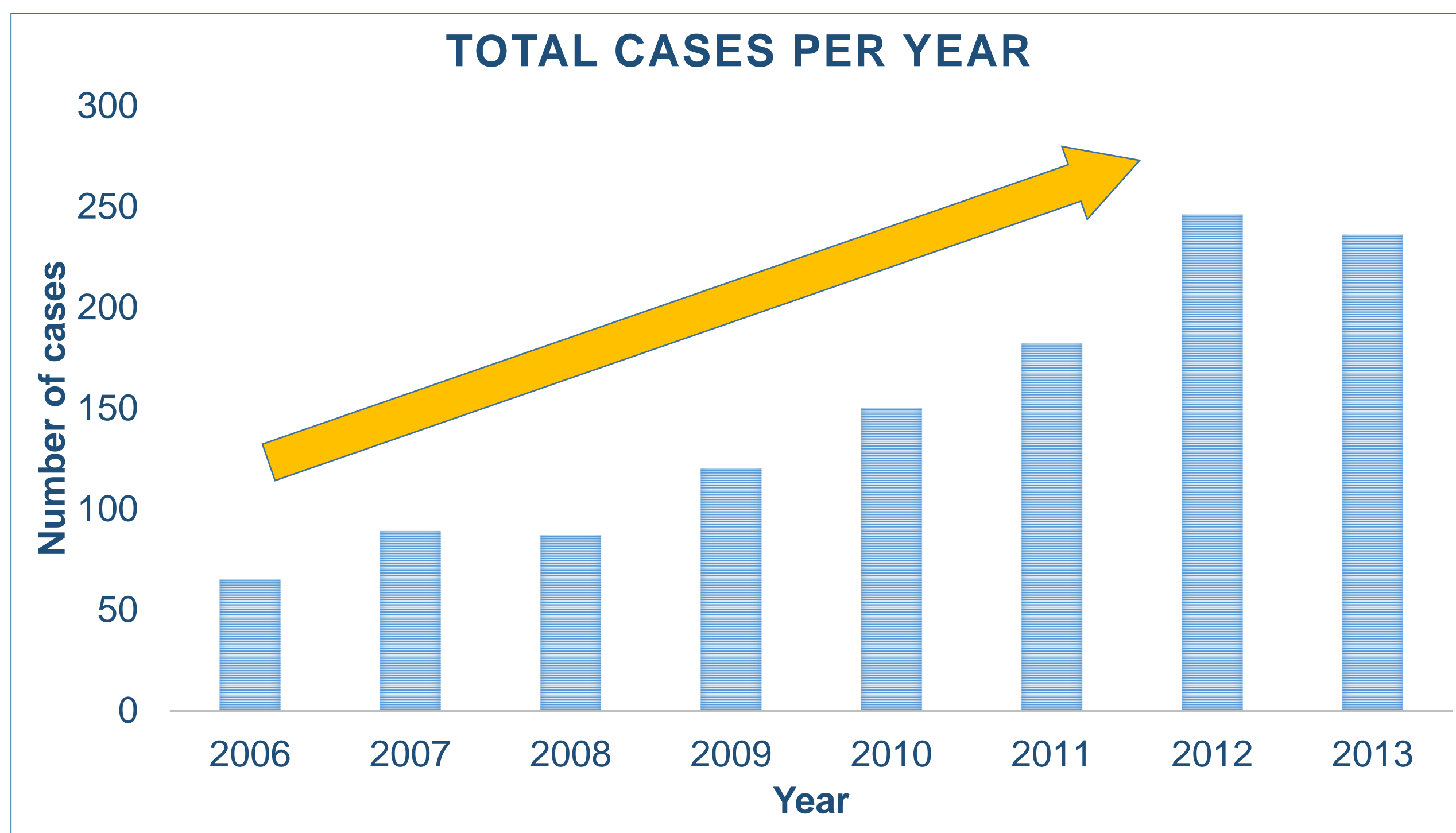
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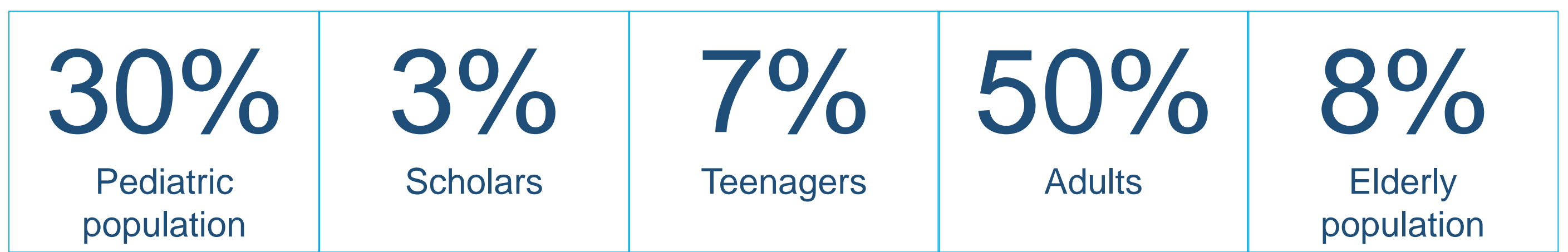
Introduction:
Tramadol is a narcotic analgesic with a narrow therapeutic window. It is widely prescribed in adults for the treatment of acute and chronic pain, when NSAIDs and acetaminophen fail. In Chile, the Poison Information Center of the Pontificia Universidad Católica de Chile (CITUC) records around thirty thousand inquiries annually.

Objective:
The aim of this work was to characterize cases registered between 2006 and 2013 by CITUC whose etiologic agent is tramadol.

Materials and Methods:
An observational, descriptive and retrospective study was conducted. Data was collected between 2006 and 2013 using the DMS INTOX software.

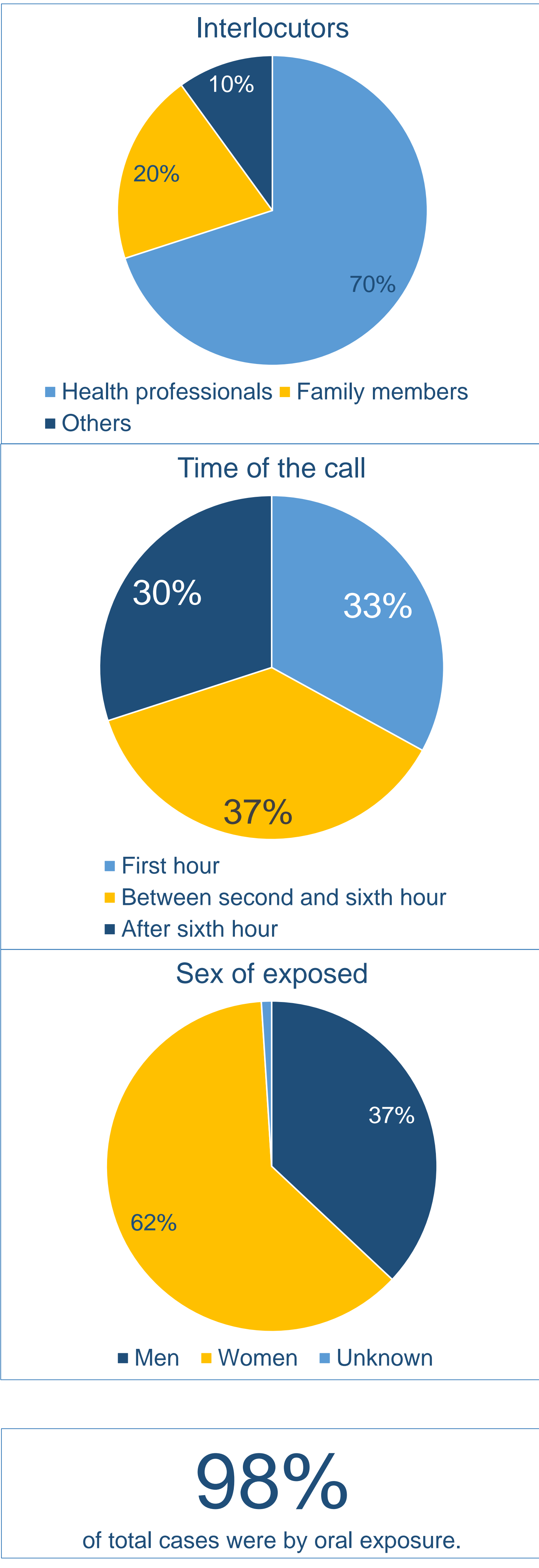


1174
Number of total exposures between 2006 and 2013.



✓ Around 0.1% of cases were related to inquiries from abuse.

Population	Total Cases	Accidental	Miss-prescriptions	Self medication	Suicides	Adverse drug reaction
Pediatric	347	57%	41%	0%	0%	0%
Scholars	37	40%	45%	0%	13%	0%
Teenagers	112	5%	6%	2%	80%	4%
Adults	529	4%	16%	13%	44%	18%
Elderly	123	10%	33%	17%	11%	23%



- Pediatric and school population:**
 - In the pediatric and school population, a strong tendency to inquiries accidental exposures was observed.
 - Missprescriptions in this group, are when an adult mistakenly administer the drug to the child, confusing it with another.
- Adolescent population:**
 - In adolescents, 8 out of 10 consultations are cases of suicide.
- Adults:**
 - In adults, unlike the pediatric/school population and teenagers, there is greater variability in the cause of consultations for Tramadol.
 - The majority of cases are of suicide attempts
 - A significant proportion of cases are due to adverse reactions seen at therapeutic doses of the drug, along with therapeutic errors and self medication.
- Elderly population:**
 - In the elder population, therapeutic errors along with adverse drug reactions in therapeutic doses prevails.

Discussion:

Overview
From the analysis of the results of this epidemiological study it should be taken into consideration that each age group has different characteristics, which determines the exposures, the circumstances and the interventions that can be done to prevent poisonings.

Pediatric and school population:
Children under one year should be the higher risk group since 100 mg dose, which is a therapeutic dose that can be easily used by an adult, can cause severe poisoning. Two scenarios occur in the majority of cases with tramadol in children; the child takes the medicine by itself, without their caregiver realizing it or the child's caregiver confused the drug that should be administered with tramadol (mainly in drops formulation), which easily exceeds the 100 mg dose. Pediatric and school population represents 33% of the cases received by the Center for tramadol, of which almost all are at risk of developing severe poisoning, requiring a highly complex healthcare service for monitoring and management in the ICU if the patient presents an opioid syndrome (apnea, bradycardia, hypotension) or serotonin syndrome (seizures, tachycardia, hypertension). It is essential that physicians warn tramadol users that this drug can cause severe poisoning in children.

Adolescent Population:
In this group, despite being only 7% of cases, 80% were suicide attempts. It is important the psychiatric approach. Adolescents at high risk for suicide attempt should have restricted access to tramadol, and other drugs with a high risk of overdose toxicity.

Adults:
The majority of cases occur in adult population, which correlates with the fact that in this group, tramadol is indicated for chronic pain, as well as in the elders. The main inquiries by suicide are in this group, which is logical, considering that this is the population with access to this medicine. Adverse drug reaction to therapeutic dose is the second cause for tramadol consultation in adult population. Health providers should be alert to adult patients with suicidal risk which have tramadol prescribed for pain management, and educate patients in the early detection of adverse effects.

Elderly population:
This population has mixed characteristics between adults and children being miss-prescriptions along with adverse drug reactions in therapeutic doses, the main causes for tramadol inquiries. Therapeutic errors will be done depending on the degree of independence of the elder, either by themselves or the caregiver. Adverse reactions are independent of the elder condition.