ORIGINAL ARTICLE

Prescription and consumption of solid oral drugs dispensed as unitary doses in a third level hospital

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Abstract Background: The knowledge about the pattern of prescription and consumption of solid oral drugs dispensed as unitary doses (UD) in Mexico is sparing. Purpose: The aim of this study was to describe the pattern of prescription and consumption of solid oral drugs dispensed as unitary doses (UD) in a third level private hospital of Mexico. A retrospective study of a 60-month period (from 2007 to 2011) was carried out to know the pattern of drugs dispensed as UD in a third level hospital. Results: Among the principal drugs consumed were analgesic, antihypertensive, antibiotic, anti-inflammatory, antiepileptic, and diuretics. The dispensation of drugs per year was as follows: 181 drugs with 85,167 UD in 2007; 199 with 90,519 UD in 2008; 193 with 101,479 UD in 2009; 195 with 100,798 UD in 2010; and 198 with 103,913 UD in 2011. Conclusion: The findings confirmed that prescription and consumption of unitary doses in the hospitalization service increased, and revealed the extensive use of analgesics as the principal prescribed drug in this kind of hospital.

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1. Introduction

The dispensation of drugs as oral unitary doses is a scientifically designed and tested system that improves the safety of the patient and therapeutic quality in hospitals (Juárez Olguín et al., 2004; Montojo, 2001). In each stage of the process, an independent evaluation to substantially reduce errors was carried out. The careful preparation and complete identification of unitary doses (drugs, doses, lot, pharmacological activities, expiration date, bar code, and patient’s name) in the process of drug use contributes in reducing adverse events related with accurate use of the drug (Blasco et al., 2001; Calderón et al., 2012).
| Generic name                        | Pharmacological activity | 2007   | 2008   | 2009   | 2010   | 2011   |
|------------------------------------|--------------------------|--------|--------|--------|--------|--------|
| Acetylsalicylic acid 100mg         | Antiaggregant             | 1231   | 99     | 236    | 186    | 2387   |
| Acetylsalicylic acid 500mg         | Analgesic                 | 155    | 1561   | 2153   | 2440   | 110    |
| Nalidixic acid/Fenazopiridin 500/50mg | Analgesic/antibacterial  | 526    | 491    | 657    | 637    | 407    |
| Valproic acid 250mg                | Anticonvulsant            | 123    | 78     |        |        |        |
| Acenocumarin 4mg                   | Anticoagulant             | 540    | 485    | 561    | 552    | 497    |
| Aciclovir 200mg                    | Antitherapeutic           | 137    | 25     | 50     | 25     | 110    |
| Aciclovir 400mg                    | Antitherapeutic           | 294    | 162    | 239    | 140    | 105    |
| Folic acid 5mg                     | Folate deficiency         | 196    | 125    | 155    | 50     | 277    |
| Alfentanil 200mg                   | Antiparasitic             | 16     | 48     | 84     | 44     | 98     |
| Alfuzosin                           | Benign prostatic hyperplasia | 14   | 38     |        |        |        |
| Aloglutamol                         | Antiacid                  | 58     | 33     | 100    | 70     |        |
| Alopurinol 100mg                   | Antigout                  | 116    | 224    | 208    | 301    | 120    |
| Alopurinol 300mg                   | Antigout                  | 233    | 179    | 270    | 150    |        |
| Ambroxol 30mg                      | Mucolitic                 | 50     | 125    | 40     | 70     |        |
| Ambroxol                           | Mucolitic                 | 7      | 18     |        |        |        |
| Amiodarone 200mg                   | Antiarrhythmic            | 846    | 1106   | 779    |        |        |
| Amiodopine 5mg                     | Antihipertensive          | 981    | 925    | 803    | 1374   | 1553   |
| Amoxicillin 500mg                  | Antibiotic                | 44     |        |        |        |        |
| Amoxicillin/clavulanic acid 500mg  | Antibiotic                | 132    | 85     | 200    | 150    | 90     |
| Amoxicillin/clavulanic acid 875mg  | Antibiotic                | 119    | 196    | 162    | 219    | 139    |
| Ampicillin 250mg                   | Antibiotic                | 11     |        |        |        |        |
| Atenolol 50mg                      | Antihipertensive          | 397    | 445    | 660    | 768    | 776    |
| Atenolol/Chlorthalidon 50/12.5mg   | Antihipertensive/diuretic | 54     | 28     | 28     | 28     | 56     |
| Atorvastatin 10mg                  | Hypocholesterolemic       | 408    | 483    | 754    | 534    | 359    |
| Atorvastatin 80mg                  | Hypocholesterolemic       |         |        |        |        |        |
| Azathioprine                       | Immunoregulator           | 25     | 172    | 94     |        |        |
| Benzonatate 100mg                  | Antitusive                | 233    | 397    | 378    | 368    | 472    |
| Biperidine 2mg                     | Antiparkinson             | 90     | 148    | 117    | 94     | 150    |
| Pinaverium bromide 100mg           | Antispasmodic             | 259    | 301    | 150    | 162    | 84     |
| Bumetanide                         | Diuretic                  | 112    | 299    | 316    | 269    | 200    |
| Butylhydroxine                     | Antispasmodic             | 326    | 255    | 495    | 458    | 353    |
| Butylhydroxine/Metamizole         | Antispasmodic/analgesic   | 430    | 593    | 500    | 372    | 468    |
| Cabergoline                        | Lactation suppression     | 7      | 44     | 63     | 52     |        |
| Candesartan 8mg                    | Antihipertensive          | 204    | 304    | 344    | 297    | 292    |
| Captopril 25mg                     | Antihipertensive          | 1322   | 1552   | 1852   | 2139   | 1821   |
| Carbamacepine 200mg                | Anticonvulsant            | 350    | 355    | 21     | 188    | 291    |
| Carbamacepine LC 200mg             | Anticonvulsant            | 350    | 350    | 120    | 60     |        |
| Calcium carbonate 500mg            | Antiacid                  | 119    | 111    | 71     | 69     |        |
| Carvedilol 25mg                    | Vasodilator               | 56     | 145    | 154    | 122    | 56     |
| Cephalexin 500mg                   | Antibiotic                | 1502   | 2109   | 1614   | 1866   | 1565   |
| Caffeine/Ergotin                   | Antimigraine              | 202    | 239    | 571    | 72     |        |
| Cetirizine 10mg                    | Antihistaminic            | 127    | 133    | 149    | 311    | 288    |
| Cetirizine/pseudoephedrine 5/120mg | Antihistaminic            | 45     |        |        |        |        |
| Celecoxib 200mg                    | Osteoarthritic            | 190    | 275    |        |        |        |
| Cinitapride 1mg                    | Gastrokinetic             | 1204   | 835    | 2022   | 1369   | 1153   |
| Ciproflocaxin 250mg                | Antibiotic                | 175    | 174    | 203    | 60     | 96     |
| Ciproflocaxin 500mg                | Antibiotic                | 981    | 1220   | 1162   | 986    | 991    |
| Cisapride 10mg                     | Gastrokinetic             | 174    | 199    | 234    | 180    | 300    |
| Cisapride 5mg                      | Gastrokinetic             | 258    | 174    | 337    | 120    | 30     |
| Clarithromycin 250mg               | Antibiotic macrolide      | 69     | 103    | 78     | 85     | 177    |
| Clarithromycin HP 500mg            | Antibiotic macrolide      | 213    | 261    | 146    | 83     | 84     |
| Clarithromycin OD. 500mg           | Antibiotic macrolide      | 48     | 38     | 42     | 85     | 312    |
| Clindamycine 300mg                 | Antibiotic                | 306    | 129    |        |        |        |
| Lysine clonixinate 125mg           | Analgesic                 | 321    | 452    | 614    | 795    | 1085   |
| Lysine clonixinate 250mg           | Analgesic                 | 324    | 472    | 603    | 844    | 736    |
| Lysine clonixinate:Pargeverine 125/10mg | Analgesic/antispasmodic | 1266   | 1680   | 2141   | 2240   | 2998   |
| Clopidogrel 75mg                   | Plaquey antiaggregant     | 174    | 255    | 186    | 80     | 140    |
| Chlorphenamine 25mg                | Antihistaminic            | 141    | 167    | 177    | 180    | 140    |
| Chloropyramine 25mg                | Antihistaminic            | 263    | 150    | 168    | 90     | 90     |
| Dicycloverine 10mg                 | Antiinflamatory/analgesic | 76     | 127    | 116    | 72     | 72     |
| Generic name                | Pharmacological activity   | Period (years) | 2007 | 2008 | 2009 | 2010 | 2011 |
|-----------------------------|----------------------------|---------------|------|------|------|------|------|
| Diclofenac 50mg             | Anti-inflammatory/analgesic |               | 439  | 793  | 185  | 90   |
| Diclofenac sodium 100mg     | Anti-inflammatory/analgesic|               | 148  | 239  | 64   | 89   | 59   |
| Diphenidol 25mg             | Antiemetic                  |               | 205  | 299  | 248  | 285  | 325  |
| Diclofenac 0.25mg           | Cardiac insufficiency       |               | 420  | 358  | 600  | 420  | 360  |
| Diltiazem 180mg             | Antihipertensive            |               | 135  | 372  | 360  | 390  |
| Diltiazem 30mg              | Antihipertensive            |               | 292  | 379  | 173  | 174  | 270  |
| Diltiazem 60mg              | Antihipertensive            |               | 252  | 102  | 170  | 190  | 176  |
| Diltiazem 90mg              | Antihipertensive            |               | 119  | 117  | 16   | 20   | 10   |
| Domperidone 10mg            | Gastrokinetic/antiemetic    |               | 602  | 702  | 421  | 506  | 626  |
| Doxicycline 100mg           | Antibiotic                  |               | 31   | 111  | 94   | 90   | 194  |
| Dulfoten 30mg               | Antidepressant              |               | 42   | 188  | 277  | 311  |      |
| Enoapril 10mg               | Antihipertensive            |               | 293  | 222  | 274  | 90   | 120  |
| Enoapril 5mg                | Antihipertensive            |               | 136  | 79   | 90   | 360  | 300  |
| Eplerenone                  | Antiarrhythmic              |               |      |      |      |      | 214  |
| Ergometrine 0.2mg           | Uterus contraction stimulator|              | 275  | 238  | 272  | 239  | 307  |
| Ergometrine/Caffeine        | Antimigraine                |               | 135  | 117  | 114  | 120  | 120  |
| Spironolactone 100mg        | Diuretic/antihipertensive   |               | 462  | 450  | 244  | 240  | 419  |
| Spironolactone 25mg         | Diuretic/antihipertensive   |               | 300  | 236  | 388  | 300  | 320  |
| Etoricoxicib 120mg          | Osteoarthritic              |               | 644  | 925  | 450  | 266  | 224  |
| Etoricoxicib 90mg           | Osteoarthritic              |               | 1198 | 807  | 854  | 690  | 696  |
| Phenazopyridine 100mg       | Antiemetic                  |               | 408  | 341  | 415  | 369  | 432  |
| Phenyoil 100mg              | Antiemetic                  |               | 1120 | 1358 | 1434 | 1084 | 1091 |
| Flavoxate 200mg             | Urinary antispasmodic       |               | 408  | 292  | 106  | 120  | 120  |
| Fluconazole 100mg           | Antifungal                  |               | 309  | 58   | 602  | 40   | 80   |
| Fluconazole 50mg            | Antifungal                  |               | 60   | 371  | 118  | 367  | 258  |
| Fluconazole 20mg            | Antifungal                  |               | 130  | 38   | 105  | 28   | 89   |
| Furosemide 20mg             | Diuretic                    |               | 615  | 697  | 841  | 423  | 576  |
| Furosemide/spironolactone 20/50mg | Diuretic/antihipertensive |               | 180  | 192  | 124  | 160  | 112  |
| Gabapentin 300mg            | Anticonvulsant               |               |      |      |      |      | 238  |
| Gabapentin 400mg            | Anticonvulsant               |               | 465  | 39   |      |      |      |
| Gabapentin 400mg            | Anticonvulsant               |               |      |      |      |      |      |
| Gabapentin 100mg            | Antibiotic                  |               | 52   |      |      |      |      |
| Glibenclamide 5mg           | Hypoglycemic                |               | 160  | 50   | 349  | 50   | 100  |
| Glibenclamide 2mg           | Hypoglycemic                |               | 234  | 129  | 149  | 130  | 60   |
| Hydrallazine 10mg           | Antihipertensive            |               | 203  | 282  | 435  | 400  | 206  |
| Hydrallazine 50mg           | Antihipertensive            |               | 156  | 96   | 196  | 100  | 100  |
| Hydrochlorothiazide/losartan 50/12.5mg | Antihypertensive/diuretic |               |      |      |      |      |      |
| Hydroaldehyde 500mg         | Antiacid                    |               |      |      |      |      | 14   |
| Iron and vitamins 600mg     | Antianemic                  |               | 104  | 68   | 144  | 144  | 108  |
| Ibuprofen 200mg             | Anti-inflammatory/antirheumatic |             | 30   | 10   | 263  | 180  | 402  |
| Ibuprofen 400mg (Motrin®)   | Anti-inflammatory/antirheumatic |             | 342  | 310  | 478  | 450  | 270  |
| Ibuprofen 400mg             | Anti-inflammatory/antirheumatic |             | 63   | 53   | 10   | 17   | 10   |
| Ibuprofen 400mg             | Anti-inflammatory/antirheumatic |             | 125  |      |      |      | 30   |
| Ibuprofen 400mg             | Anti-inflammatory/antirheumatic |             | 126  | 338  |      |      |      |
| Indomethacin 25mg           | Anti-inflammatory/antirheumatic |             | 158  | 60   | 114  | 120  | 267  |
| Indomethacin 50mg           | Anti-inflammatory/antirheumatic |             |      |      | 30   | 84   | 80   |
| Irbesartan 150mg            | Antihipertensive            |               | 251  | 239  | 592  | 461  | 354  |
| Isosorbide 20mg             | Coronary vasodilator        |               | 115  | 88   | 118  | 150  | 120  |
| Isosorbide 5mg              | Coronary vasodilator        |               |      |      | 108  | 20   |      |
| Isosorbide 60mg             | Coronary vasodilator        |               | 38   | 91   | 80   | 40   | 119  |
| Ketoprofen 100mg            | Anti-inflammatory           |               | 802  | 1089 | 1550 | 1694 | 1788 |
| Ketoprofen 200mg            | Anti-inflammatory           |               | 1069 | 1289 | 1141 | 680  | 501  |
| Ketorolac 10mg              | Analgesic                   |               | 9562 | 9792 | 9342 | 9296 | 5805 |
| Ketorolac R 10mg            | Analgesic                   |               | 7786 | 9535 | 9296 | 7627 | 2192 |
| Ketorolac GI                | Analgesic                   |               |      |      |      |      | 1398 |
| Ketorolac 30mg              | Analgesic                   |               |      |      |      |      | 166  |
| Ketorolac 30mg              | Analgesic                   |               | 616  | 1505 | 1055 | 3766 | 5989 |
| Ketorolac/tiramadol 10/25mg | Analgesic                   |               |      |      |      |      | 105  |
| Lamotrigin                  | Anticonvulsant               |               | 97   | 262  | 235  | 42   |      |
| Lansoprazol 30mg            | Antiacid                    |               | 40   | 21   | 35   | 21   | 7    |
| Leviracetam 500mg           | Anticonvulsant               |               | 198  | 270  | 364  | 121  | 323  |
| Levodopa/Carbidopa 250/25mg | Antiparkinson               |               | 200  | 244  | 150  | 150  | 150  |

(continued on next page)
| Generic name                  | Pharmacological activity | Period (years) |
|------------------------------|--------------------------|----------------|
|                             |                          | 2007 | 2008 | 2009 | 2010 | 2011 |
| **Levofloxacin 500mg**       | Antibiotic               | 555  | 615  | 1037 | 679  | 689  |
| **Levofloxacin T 500mg**     | Antibiotic               | 62   | 55   | 110  | 63   | 91   |
| **Levosulpiride 25mg**       | Prokinetic/antiemetic    | 105  | 408  | 622  | 161  |
| **Levobetaxolium sodium 100μg** | Thyroid hormone          | 240  | 794  | 719  | 572  | 700  |
| **Lisinopril 5mg**           | Antihipertensive         | 20   | 51   | 30   | 137  |
| **Lisinopril 10mg**          | Antihipertensive         | 127  | 185  | 179  | 104  |
| **Loperamide 2mg**           | Antidiarrheic            | 611  | 883  | 605  | 841  | 636  |
| **Loperamide 2mg**           | Antidiarrheic            | 95   | 140  | 56   | 149  | 340  |
| **Loratadine 10mg**          | Antihistaminic           | 141  | 80   | 231  | 160  | 285  |
| **Loratadine/pseudoephedrine** | Antihistaminic           | 146  | 74   | 15   |      |      |
| **Moxalofidine 50mg**        | Antihipertensive         | 369  | 276  | 342  | 234  | 268  |
| **Meloxicam 15mg**           | Anti-inflammatory        | 102  | 97   | 116  | 153  | 175  |
| **Meloxicam 7,5mg**          | Anti-inflammatory        | 134  | 89   | 98   | 68   | 30   |
| **Metoclopramide 250mg**     | Prokinetic               | 86   | 59   | 55   | 85   |
| **Metoclopramide 10mg**      | Anti-inflammatory        | 394  | 237  | 298  | 141  | 240  |
| **Metamizol sodium 5mg**     | Analgesic/antiinflammatory | 628  | 524  | 555  | 710  | 710  |
| **Metamizol sodium 10mg**    | Analgesic/antiinflammatory | 903  | 858  | 1023 | 1660 | 3641 |
| **Metformin 500mg**          | Antihiperglicemic        | 232  | 392  |      |      |      |
| **Metformin/Glibenclamide 500/2,5mg** | Hypoglycemic            | 167  | 173  | 305  | 87   | 75   |
| **Metformin/Glibenclamide 500/5mg** | Hypoglycemic            | 352  | 144  | 128  | 172  | 72   |
| **Methylxoprop 250mg**       | Antihipertensive         | 97   | 330  | 528  | 171  | 250  |
| **Methylxoprop 0,2mg**       | Oxytocic                 | 26   | 70   | 30   |      |      |
| **Moxalofidine 10mg**        | Anti-inflammatory/antirheumatic | 1268 | 677  | 939  | 655  | 720  |
| **Naproxen/Paracetamol 275/300mg** | Analgesic/antipyretic   | 130  | 111  | 90   | 205  | 120  |
| **Naproxen 250mg**           | Antibiotic               | 702  | 1069 | 914  | 593  | 379  |
| **Nifedipine 10mg**          | Antihipertensive         | 390  | 420  | 1348 | 432  | 445  |
| **Nimesulide 100mg**         | Anti-inflammatory/analgesic | 568  | 630  | 754  | 909  | 912  |
| **Nimodipine 30mg**          | Neural calciumantagonist | 758  | 1009 | 697  | 779  | 1124 |
| **Nitrofurantoin 50mg**      | Urinary antibiotic       | 174  | 249  | 353  | 121  | 240  |
| **Olloxacin 200mg**          | Antibiotic               | 141  | 108  | 19   | 55   | 60   |
| **Olloxacin 400mg**          | Antibiotic               | 50   | 20   | 66   |      |      |
| **Olanzapine 10mg**          | Antipsychotic            | 76   | 59   | 312  | 140  | 168  |
| **Olanzapine 5mgg**          | Antipsychotic            | 186  | 162  | 79   | 103  | 111  |
| **Omeprazol 10mg**           | Antidyspeptic             | 306  | 341  | 377  | 311  | 518  |
| **Ondansetron 8mg**          | Antiemetic               | 185  | 161  | 181  | 160  | 189  |
| **Oxazepam 300mg**           | Anticonvulsant            | 268  | 274  | 203  | 222  | 180  |
| **Oxybutynin 2mg**           | Urinary incontinence     | 110  | 85   |      | 60   | 60   |
| **Pancreatin/Dimethicone**   | Digestive                | 256  | 593  | 728  | 352  | 350  |
| **Pantoprotilol 20mg**       | Antiinflammatory         | 291  | 204  | 263  | 265  | 138  |
| **Pantoprotilol 40mg**       | Antiinflammatory         | 859  | 1111 | 1026 | 1585 | 1261 |
| **Paracetamol 500mg**        | Analgesic/antipyretic     | 2928 | 2592 | 2905 | 4505 | 4836 |
| **Paracetamol 750mg**        | Analgesic/antipyretic     | 5097 | 1117 | 720  | 3788 | 6078 |
| **Paracetamol/Orphenadrine 450/35mg** | Antihypererglicemic      | 152  | 143  | 150  | 100  |      |
| **Paracetamol/Pseudoephedrine Chlorphalenmine** | Analgesic/antipyretic/antihistaminic | 40   | 63   |      |      |      |
| **Paramethasone/Chlorphenamine** | Antihypererglicemic      | 126  | 94   | 180  | 78   | 378  |
| **Paroxetine 20mg**          | Antidepressive            | 139  | 97   | 47   | 107  | 40   |
| **Pentoxifylline 300mg**     | Hemorheologic             | 167  | 594  | 180  | 178  |
| **Piroxilazine 15mg**        | Hypoglycemic              | 124  | 95   | 74   | 14   | 21   |
| **Pyridostigmine 60mg**      | Parasympathetic-mimetic  | 101  | 73   | 368  | 60   | 98   |
| **Prasugrel**                | Plaquey antiaggregant     | 90   | 86   | 90   | 211  | 267  |
| **Prazosin 1mg**             | Antihipertensive          | 217  | 366  | 90   | 401  |      |
| **Prazosin 2mg**             | Antihipertensive          | 490  | 474  | 1013 | 750  | 630  |
| **Prednison 20mg**           | Anti-inflammatory/antirheumatic |      |      |      |      |      |
Drugs constitute primordial base in the treatment of hospitalized patients and their incorrect use could give rise to grievous consequences on the integrity and improvement of the patients (Delgado Silveira et al., 2012). Studies on pharmacoepidemiology permit the knowledge of prescription and consumption patterns of oral unitary dose drugs and this could contribute to drug acquisition programs by medical institutions, optimum storage conditions, and avoidance of the same being out of stock (Calderón et al., 2012; Sicras-Mainar et al., 2009). For these reasons, the objective of this study was to describe the pattern of prescription and consumption of solid oral drugs dispensed as unitary doses (UD) in a third level private hospital in Mexico.

2. Methods

A retrospective study of the consumption of solid oral drugs dispensed as unitary doses (UD) in a third level private hospital in Mexico which attends patients in almost all kind of medical areas was carried out.

For adequateness of prescribed drugs by medical staff, the unitary doses dispensation system of Medical Packaging Inc. with software WinPak 4.0JU was used. The database was built compiling information from the registers using a 60-month daily logbook prepared from January 1st, 2007 to December 31st, 2011. The information collected was organized taking into consideration therapeutic activity, the patent name of the drug, and monthly consumption of individualized drug dosification with their different brand names or pharmaceutical presentations. This study has been granted an exemption from requiring ethics approval, fortify by Committee of Investigation of this Institution.

3. Results

Table 1 shows the unitary doses orally consumed in the hospitalization service of a third level private hospital in Mexico. The total number of drugs dispensed as unitary doses was as follows: In 2007, 85,167 doses from a total of 181 different drugs dispensed were consumed; in 2008, it was 90,519 doses from 199 different drugs; In 2009, 101,479 doses were administered from 193 different drugs; and in 2010, 100,798 doses were consumed from 195 different drugs while in 2011, it was 103,913 unitary doses from 198 drugs.

Fig. 1 shows drug consumptions from 2007 to 2011 based on their therapeutic activities. There were more than 50

### Table 1 (continued)

| Generic name | Pharmacological activity | Period (years) |
|--------------|--------------------------|----------------|
|              |                          | 2007 | 2008 | 2009 | 2010 | 2011 |
| Prednisone 50mg | Anti-inflammatory/antirheumatic | 289  | 313  | 728  | 510  | 550  |
| Prednisone 5mg  | Anti-inflammatory/antirheumatic | 593  | 439  | 408  | 254  | 368  |
| Pregabalin 7mg  | Anticonvulsant            | 282  | 1176 | 901  | 1420 | 1076 |
| Propafenone 150mg| Antiarhythmic             | 463  | 375  | 836  | 448  | 331  |
| Propranolol 10mg | Antihypertensive          | 765  | 856  | 1001 | 823  | 672  |
| Quinamide 500mg | Amebicid                  |      |      |      |      | 10   |
| Rabeprazol 20mg | Antulcer                  | 341  | 250  | 98   | 70   | 62   |
| Racecadotril 100mg| Antidiarreic              | 103  | 663  | 674  | 832  |
| Ramipril 2.5mg  | Antihypertensive          | 216  | 418  | 465  | 335  | 240  |
| Ranitidine 150mg| Antulcer                  | 944  | 738  | 563  | 390  | 360  |
| Ranitidine A 150mg| Antulcer                 | 1933 | 3696 | 2441 | 2574 | 3012 |
| Rofampicin 300mg | Antibiotic               | 187  | 141  | 118  | 208  | 77   |
| Rofampicin/isoniazide 150/75/400mg | Antituberculosis | 37   | 108  | 24   | 48   |
| Rosuvastatin 20mg | Lipid-lowering           | 118  | 282  | 300  | 240  | 236  |
| Saccharomyces Boulardii | Intestinal flora      | 120  | 243  | 460  | 289  | 470  |
| Sennosides A,B 187mg | Laxative                | 462  | 732  | 529  | 870  | 660  |
| Sennosides A,B 374mg | Laxative               | 377  | 278  | 294  | 421  | 436  |
| Simvastatine 40mg | Cholesterol lowering     | 10   |      |      |      |      |
| Tamsulosin 0.2mg | Benign prostatic hyperplasia | 107  | 352  |      |      |      |
| Tegaserod 6mg     | Analgesic                | 197  | 149  | 171  | 120  | 136  |
| Tenoxicam 20mg    | Anti-inflammatory         | 28   | 17   |      |      |      |
| Theophylline 100mg| Bronchodilator           | 136  | 78   | 261  | 58   | 151  |
| Thiamauno 300mg   | Vitamin                  | 239  | 130  | 154  | 118  | 208  |
| Tizanidine 2mg    | Muscle relaxant          | 377  | 406  | 636  | 489  | 410  |
| Topiramate 25mg   | Anticonvulsant           | 304  | 277  | 269  | 252  | 140  |
| Tramadol 100mg    | Analgesic                | 231  | 194  | 255  | 318  | 232  |
| Tramadol/Ketorolac| Analgesic                |      |      |      |      | 93   |
| Tramadol/Paracetamol 37.5/325mg | Analgesic/antipyretic | 512  | 593  | 813  | 844  | 1036 |
| Trimebutine 200mg | Prokinetic               | 182  | 182  | 507  | 812  | 866  |
| Trimethoprim/Sulfamethoxazole | Bacteriostatic | 188  | 34   | 99   | 83   | 134  |
| Valproate magnesium 400mg | Anticonvulsant | 82   | 8    | 24   | 27   | 10   |
| Verapamil 40mg    | Antihypertensive         | 80   | 127  | 38   | 55   | 90   |
| Verapamil 4mg     | Antihypertensive         | 94   | 220  | 50   | 60   |

Total 85,167 90,519 101,479 100,798 103,913
4. Discussion

The use of unitary dose drugs is increasing. Is it because more drugs are available in unitary doses or is it because the knowledge among hospital staff about medication safety has increased (Juárez-Olguín et al., 2007). The use of unitary dose system is intended to optimize the consumption of drugs by the hospitalized patients as well as to help the hospitals to make efficient use of their resources (Flores Pérez et al., 2013). This system established that the norms and procedures not only nationals but also internationals have to be followed with the objective of guaranteeing quality results in benefit of the patients and in fulfillment of therapeutic profiles.

It is important to mention that these drug presentations have variations because some of them have been discontinued by the producer laboratories or that innovative drugs for the same purpose have been introduced resulting in the use of repeated generic names but obviously different brand names and chosen by the adscript physician of the hospital.

The registry of drugs consumed in unitary doses in the hospitalization area demonstrates that a great effort and well-trained staff is required to avoid errors in dispensation and medication as well as in possible adverse effects. On knowing the enormous quantity of drugs consumed, it could be suggested that drugs belonging to the following groups: Analgesics (35.43%), Antiaggregant (2.85%), Antibiotics (6.20%), Anticonvulsants (2.66%), Antihypertensives (10.10%), anti-inflammatory (6.95%), Antulcers (5.61%) and Gastrokinetics (7.38%), represented more than 77% of the total drugs consumed.

With respect to the consumption of analgesics, this result agrees with the studies of Sicras et al., who suggested that oral analgesics (paracetamol, tramadol, and aceclofenac) were the most consumed by hospitalized patients. However, in this study, the principal drug consumed was ketorolac.

Studies carried out by Pombo et al. (2007), suggest that ciprofloxacin should be considered as drug of election for integrating antibiotic consumption program in unitary doses and with the present study, it is demonstrated that with the exception of cephalxin which occupied the first place, this antibiotic was second in place in antibiotic consumption in hospitalization services.

5. Conclusions

The findings confirmed an increase in prescription and consumption of unitary doses in the hospitalization service, and revealed the extensive use of analgesics as the principal prescribed drug in this kind of hospital. The use of unitary dose drugs is increasing in Latino-American countries. Is it because more drugs are available in unitary doses or is it because the knowledge among hospital staff about medication safety has increased.

Consent

The present study was classified as retrospective and epidemiologic, where the Consent and ethical approval is not strictly necessary.

Author contribution

DCG and HJO have made substantial contributions to conception and design of study and have been involved in drafting the manuscript, revising it critically for important intellectual content.

EHG, AMA and BJT have made substantial contributions to acquisition, analysis and interpretation of data.

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