Material and Methods: A structured search of the Cochrane Library and PubMed was conducted to identify English-language reviews, systematic as well as non-systematic, dealing with the importance of convenience for patient adherence, irrespective of disease and medicine type. The PubMed search was limited to reviews published between January 2009 and December 2014. Reference lists of included reviews were screened in order to identify other relevant literature.
Results: The synthesis was based on 77 reviews with highly variable methodological quality. Few reviews included a systematic search; no reviews performed systematic meta-analyses. The scope and focus of reviews varied considerably; nearly all reviews focused on chronic disease, but within a large number of therapeutic areas. Most reviews that included a critical appraisal of primary original literature stressed a lack of well-defined definitions, interventions and endpoints. With this proviso, a general finding for orally administered medicines was that "regime complexity", including the number of daily doses and "units" per dosing, seemed to correlate negatively to adherence. For parenterally administered drugs, the importance of convenience was much less clear.
Conclusions: The association between convenience and adherence has been discussed within many therapeutic areas, but only rarely examined using a stringent scientific-methodological approach. Data suggest that increasing regime complexity may lower adherence to orally administered drugs; this does not necessarily hold true for parenteral treatment. Given the overall low level of evidence, it remains uncertain whether increased convenience, often at a higher cost, should be a decisive factor when choosing between otherwise equal drug treatments.

CHEMOPREVENTIVE POTENTIAL OF *SOLANUM LYCOCARPUM* ON COLON CARCINOGENESIS INDUCED IN WISTAR RATS

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Solanum lycocarpum A. St.-Hil. (Solanaceae), popularly known as "fruit-of-wolf", is a hairy shrub or small much-branched tree of the Brazilian Cerrado. Plants belonging to the genus *Solanum* are known for their high concentration of alkaloids. Solasonine and solamargine are two of the major glycoalkaloids found in at least 100 *Solanum* species. Studies on solamargine activities have demonstrated its ability to inhibit human tumor cells proliferation. The present study aimed to investigate phytochemical composition and quimioprevention potential of a fruit extract of *S. lycocarpum* glycoalkaloid (SL) on colon and liver carcinogenesis in Wistar rats. Fruits of *S. lycocarpum* were collected in Ribeirão Preto – SP – Brazil. The dried powder from the fruits was submitted to acid-base extraction, suspended in distilled ethanol, filtered, concentrated under reduced pressure and lyophilized to furnish the glycoalkaloidic extract. Chromatographic analyses were performed in a HPLC equipment with a diode array detector. Animals were orally (gavage) treated with the extract at doses of 15, 30 and 60 mg/kg body weight/day. In the colon carcinogenesis protocol, two subcutaneous injection of 1,2-dimethylhydrazine (DMH; 40 mg/kg b.w.) were administered for two weeks; in the liver carcinogenesis model, a single intraperitoneal injection of diethylnitrosamine (DEN; 200 mg/kg b.w.) was administered. Animals were sacrificed 10 weeks after DMH or DEN injections for evaluating aberrant crypt foci (ACF) in colon and GST-P^+ (placental form of glutathione-S-transferase enzyme) foci in liver of Wistar rats. Results showed a significant reduction in the frequency of ACF in the group treated with SL plus DMH in comparison with those treated with DMH alone. These findings suggest that SL displayed a protective affect against colon carcinogenesis. On the other hand, SL did not exert any in the liver.

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MITOGENIC ACTIVITY AND PROLIFERATIVE EFFECT OF A NEW-DEVELOPED SHORT ACTING INSULIN ANALOGUE

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Introduction: Human insulin analogues with modified amino acid sequence may exert stronger proliferative effect and carcinogenic potential than insulin itself. The objective of the study was to assess mitogenic activity and activation of proliferation in tumorigenic and non-tumorigenic cell lines upon stimulation with a new-developed short-acting B28Lys-B29Pro human insulin (KP) in comparison to EU Pharmacopeia human insulin standard (HIS) and insulin AspB10 with strong mitogenic, cancerogenic activity.
Material and Methods: The mitogenic activity and activation of cells proliferation were examined by the optimized and validated colorimetric MTS and BrdU tests on two cell lines: MCF7-human breast adenocarcinoma and MCF10A-normal human epithelial breast cells. MTS is a method for determining the number of viable cells based on mitochondrial dehydrogenase activity measurements. BrdU immunoassay enables quantitative measurement of DNA synthesis and thus cell proliferation. Nine concentrations of each items at range 0.00–800 nM (MTS) or 0.00–2000 nM (BrdU) were tested.

Significant differences in increasing number of cells compared to negative control and between each tested concentration in pair of evaluated items were performed using t-test at $\alpha=0.05$.
Results: There were no statistically significant differences between KP and HIS on MCF10A cells in BrdU test. The differences in other comparisons may be considered as an incidental effect, as they appeared coincidentally in non-consecutive concentrations. Statistically significance between KP and AspB10 in a wide range of concentrations were demonstrated in tumorigenic cells in BrdU (0.49–2000.0 nM) and non-tumorigenic cells in MTS (0.20–800.0 nM). BrdU assay on MCF10A demonstrated that AspB10 stronger than KP activated proliferation, but statistically significant differences were not showed at each concentration.
Conclusions: The insulin KP induced cell proliferation similarly to HIS at most of tested concentrations. Lower concentrations of AspB10 (from 0.2 nM) stimulated proliferation more efficiently than KP.

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UNDERGRADUATE ELECTIVES IN CLINICAL PHARMACOLOGY AT THE INTERFACE OF ACADEMIA AND INDUSTRY

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Introduction: The Centre for Human Drug Research (CHDR) is a non-profit clinical research institute at the interface between