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# Preparation of a simple phospholipids-based nano carrier for intravenous drug delivery

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**Background and Aims:** In recent years, significant efforts have been devoted to using the potentials of nanotechnology in drug delivery, since it offers the possibly of site-specific and/or time-controlled delivery of small or large molecular weight drugs and other bioactive agents. Phospholipids offer many advantages for preparation of drug delivery carrier owing to their remarkable biocompatibility as well as biodegradability and amphiphilic nature. The aim of this study was to prepare a novel phospholipid-based carrier for drug delivery purposes.
**Methods:** Preparation of phospholipids-based nanocarrier was performed involving a organic phase (ethanol) and an aqueous phase (water). The optimum conditions of phospholipids-based nanocarrier generation was determined in this method in terms of the smallest final particle size.
**Results:** Regarding the results of optimization of several parameters it was showed that some parameters are mostly effective in preparation process. In this experiment the z-average of particle size of the optimized phospholipids-based nanocarrier was about 120 ± 10 nm with good reproducibility and narrow size distribution with a PDI<0.2.
**Conclusions:** At last, this method was optimized for preparation with considerably less experimental efforts, greater precision, and facilitated system modeling.

**Keywords:** Phospholipids; Nanotechnology; Nanocarrier; Lecithin