Table 2 Studies included after analysis of eligibility criteria

Authors	TypeofNPs	Drugs	Studttype	Time	Efficiency	Toxicity
Ranade AA, et al.[20]	PM	PTX in different concentrations	Randomizedclinicaltrial	3 weeks	Showed better safety and promising efficacy in patients with advanced and/or metastatic breast cancer	Anemia, Neutropenia, Leukopenia, Oral mucositisandDiarrheaNeuropathy
Fulfager AD, Yadav KS.[24]	Liposomes, PM, NPsP, Metallic Lipid Dendrimers	Adriamycin, Quercetin, PTX, Rapamycin, Doxorubicin, Verapamil, Imatinib, Retinoic Acid, Curcumin, DTX, Chloroquine, DOX, PDTC, BCL, PDA FA, Methoxy-poly(ethylene glycol)-b-poly((2-dimethylamino)ethyl methacrylate -itaconic acid) (mPEG-b-p (DMAEMA-co-IA)) copolymer. Salinomycin, Pluronic, Lapatinib, Elacridar (GG918), Cyclosporine A, Lonidamine and Resveratrol	Preclinical *in vitro* and in *vivo*	N/A	Aid in drug pharmacokinetics, prevent drug degradation, controlled release and reduced side effects	May reducechemotherapytoxicity
Oda CMR, de Barros ALB, Fernandes RS, et al.[27]	PM containing PTX (PM-DTPA/PTX)	PTX (PM-DTPA/PTX)	Preclinical *in vitro* and *in vivo*	24 h	The lyophilized kit was able to protect and maintain the physicochemical and radiochemical pharmacological properties of PM-DTPA/PTX until delivery to 4T1 murine mammary carcinoma cells	N/A
Khan MA, Zafaryab M, Mehdi SH, et al.[28]	Chitosan with Carboplatin	carboplatin	Preclinical *in vitro* and *in vivo*	24, 48 e 72 h	The chitosan NPs showed better performance than the free drug both in delivery and in its therapeutic potential. IC_{50} value for 24 h (120.23 μg/mL), 48h (94.17 μg/mL) and 72 h (86.25 μg/mL), respectively. The values were higher compared to those obtained with free carboplatin	Colloidal positively charged particles can enhance the ionic interaction between negatively charged particles on the mucosal surface. It isimproving its bioavailabilityanddecreasing its toxicity.
Chidambaram M, Krishnasamy K.[30]	Curcuminpolymers	Cur-Pi, Cur-Qu e Cur-Si.	Preclinical *in vitro* and *in*	31 days	In vitro cytotoxicity by MTT assays showed that the nanoformulations	They did not induce significant changes in cells that remained

			vivo		had a lower IC_{50} than pure curcumin. In *in vivo* assays, nanoformulations had their biological activities increased compared to pure curcumin	within normal histopathological limits in anatomopathological examinations of vital organs such as the liver, kidney, heart and brain
Yap JE, Zhang L, Lovegrove JT, et al.[26]	PM DASA	Ellipticine	Preclinical*in vitro*	N/A	DASA polymers encapsulated ellipticin and the drug was successfully translocated into MCF-7 breast cancer cells by micelles.	Drug loaded micelles are more toxic after 2 h irradiation compared to the non-irradiated sample and the irradiated sample increased toxicity after 72 h
Xiao K, Liu Q, Suby N, et al.[33]	PM (PEG) and Cholic Acid (CA)	Disorazol Z and DOX (PTX-LHRH-DCMs)	Preclinical*in vitro*, *in vivo*and*ex vivo*	24 days	NP-achieved high efficacy in loading, releasing and antitumor response, reducing systemic toxicity	NPs do not exhibit hematologic, hepatic and renal toxicity
Gaur S, Wang Y, Kretzner L, et al.[22]	Drug-basedpolymer (DBP)	CyclodextrinandCamptothecin (CRLX101)	Preclinical *in vitro* and clinical study	4 weeks	The therapy proved to be effective against some types of tumors such as breast, prostate and pancreas	Gastrointestinal toxicity, hemorrhage, cystitis, and severe bone marrow suppression
Manjili HK, Malvandi H, Mousavi MS, et al.[32]	PM (PCL/PEG/PCL)	Artemisinin (ART)	Preclinical *in vitro* and *in vivo*	4 weeks	High therapeutic and encapsulation efficacy of ART-PCL-PEG-PCL micelles	The results of this evaluation do not show toxicity to naked nanoparticles at various concentrations. Relative cell toxicity was calculated by relative cell toxicity = [(A_{sample} - $A_{control}$) / Acontrol] X 100
Fujiwara Y, Mukai H, Saeki T, et al.[21]	PM (NK105)	PTX	Randomizedclinicaltrial	28 days	Little difference comparing the use of the formulation (NK105) with drug (PTX) in the treatment	Grade 3 infections, febrile neutropenia, and severe thrombocytopenia
Abou–El–Naga AM, Mutawa G, El–Sherbiny IM, et al.[25]	Polymeric NPs based on poly(lactic acid-co-glycolic acid) PLGA	DTX	Preclinical*in vitro*	2 weeks	NPs (PLGA-DTX) have been shown to be a promising option in the treatment of breast câncer	N/A
Shi M, Sun J, Zhou J, et al.[23]	PM with PTX	PTX	Clinicalstudy	1 year	Clinical trials have shown that the formulation used has antitumor and tumor size reduction efficacy	Haematological/non-haematological effects were transient, included anemias and skin reactions

Note: NPs, Nanoparticles; PM, Polymeric Micelles; PTX, Paclitaxel; DTX, Docetaxel; DOX, Doxorubicin; PDTC, Pyrrolidinedithio-carbamate; BCL, Baicalein; PDA) Polydopamine; FA, folic acid; PM-DTPA/PTX) Functionalized Diethylenetriaminepentaacetic Acid DTPA, 1,2-Distearoyl-sn-glycero-3-phosphoethanolamine-N-[methoxy polyethylene glycol)-2000]; Cur-Pi, Curcumin-piperine; Cur-Qu, Curcumin-Quercetin; Cur-Si, Curcumin-Silibinin; N/A, Not applicable