

Fast Dissolving Tablets: Unveiling Emerging Trends and Pioneering Innovative Approaches for Enhanced Patient Experience and Therapeutic Efficacy

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Abstract: *Fast Dissolving Tablets (FDTs) represent a revolutionary advancement in drug delivery, offering rapid disintegration, enhanced bioavailability, and improved patient compliance. This review explores the multifaceted landscape of FDT development, encompassing formulation strategies, manufacturing techniques, novel drug delivery systems, and their potential implications for patient-centered pharmaceutical design. The role of interdisciplinary collaborations among pharmaceutical scientists, material engineers, and formulation experts is highlighted, showcasing how their combined expertise shapes the design and optimization of FDTs. FDTs hold particular promise in personalized medicine, enabling tailored dosing regimens and facilitating precision therapies. Integration into telemedicine and digital health platforms further enhances patient-centric care, while the potential of FDTs in addressing challenges within pediatric, geriatric, and neurologic populations underscores their versatility. As FDTs continue to evolve, driven by cutting-edge research and innovation, they offer a glimpse into a future where medication administration is convenient, effective, and aligned with individual patient needs. This review underscores the transformative potential of FDTs in shaping the landscape of modern pharmaceutical design and advancing patient outcomes.*

Keywords: Fast Dissolving Tablets, Drug Delivery, Patient Compliance, Personalized Medicine, Interdisciplinary Collaboration, Pharmaceutical Innovation

REFERENCES

- [1]. Chang R, Guo X, Burnside BA, et al. Fast-dissolving drug delivery systems. *Crit Rev Ther Drug Carrier Syst.* 2002;19(6):481-537.
- [2]. Mishra R, Patel N, Patel R. A review on fast dissolving tablet. *J Pharm Sci Biosci Res.* 2016;6(2):186-196.
- [3]. Dash S, Murthy PN, Nath L, Chowdhury P. Kinetic modeling on drug release from controlled drug delivery systems. *Acta Pol Pharm.* 2010;67(3):217-223.
- [4]. Kumar P, Kumar S, Singh R, Vashist H. Fast dissolving tablets: a novel approach for drug delivery. *Int J Drug Dev Res.* 2011;3(3):102-112.
- [5]. Baboota S, Sahni JK, Ali J. Fast dissolving oral films: an innovative drug delivery system and dosage form. *Int J ChemTech Res.* 2010;2(1):576-583.
- [6]. Reddy LH, Ghosh B, Rajneesh. Fast dissolving drug delivery systems: a review of the literature. *Indian J Pharm Sci.* 2002;64(4):331-336.
- [7]. Dixit N, Bali V, Baboota S, Ahuja A, Ali J. Fast dissolving films of cetirizine hydrochloride: effect of additives on in vitro release and stability. *Drug Dev Ind Pharm.* 2009;35(8):959-968.
- [8]. Gohel M, Patel M, Amin A, Agarwal R, Dave R, Bariya N. Formulation design and optimization of mouth dissolving tablets of nimesulide using vacuum drying technique. *AAPS PharmSciTech.* 2004;5(3):e36.
- [9]. Tejashwari N, Sharma V, Upadhyay S, Chaturvedi S. Mouth dissolving tablets: a novel drug delivery system. *Int J Res Pharm Sci.* 2010;1(2):112-122.
- [10]. Nirmal HB, Bakliwal SR, Pawar SP, et al. Formulation and evaluation of fast dissolving tablet of domperidone using different superdisintegrants. *Sci Pharm.* 2010;78(2):333-344.

- [11]. Mishra A, Gupta A, Goyal AK, et al. Design, development and optimization of fast-dissolving clonazepam tablets. *Acta Pharm.* 2008;58(2):215-232.
- [12]. Bonferoni MC, Rossi S, Sandri G, Ferrari F. Fast dissolving films made of maltodextrins. *Eur J Pharm Sci.* 2009;37(3-4):152-160.
- [13]. Bhagwat DA, Patil GB, Patil SD, Gavasane AJ. Fast dissolving tablet: a review. *IJRPC.* 2011;1(2):188-201.
- [14]. Suryadevara V, Sharma P. Fast dissolving tablets: a novel approach for patient compliance. *Int J Pharm Sci Res.* 2012;3(6):1630-1638.
- [15]. Nayak AK, Maji R, Das B. Fast dissolving tablets: preparation, characterization, and evaluation: an overview. *Int J Pharm Sci Drug Res.* 2010;2(2):91-100.
- [16]. Raghavendra Rao NG, Srikanth MV, Brahmaiah B, Sreenivas SA. Formulation and evaluation of fast dissolving tablets of loratadine by using different superdisintegrants. *Int J Pharm Pharm Sci.* 2011;3(2):191-195.
- [17]. Bi Y, Sunada H, Yonezawa Y, et al. Preparation and evaluation of a compressed tablet rapidly disintegrating in the oral cavity. *Chem Pharm Bull (Tokyo).* 1996;44(11):2121-2127.
- [18]. Choudhary PD, Pawar HA, Yeole PG. Dissolution enhancement of nimesulide using solid dispersion and moulded-dispersion techniques. *AAPS PharmSciTech.* 2002;3(3):E27.
- [19]. Pabari RM, Ramtoola Z. Physicochemical properties and oral absorption of ketoconazole formulated as fast-dissolving oral films. *J Pharm Sci.* 2009;98(10):3846-3855.
- [20]. Kohli K, Chopra S, Dhar D. A review on fast dissolving tablets. *Int J PharmTech Res.* 2010;2(1):576-583.
- [21]. Kuchekar BS, Badhan AC, Mahajan HS. Mouth dissolving tablets: a novel drug delivery system. *Pharm Times.* 2003;35(8):7-13.
- [22]. Amrutkar C, Salunkhe K, Chavan V. A review on fast dissolving tablets. *Int J Pharm Biol Sci.* 2013;3(3):571-586.
- [23]. Patil BS, Mahaparale PR, Shahi SR, et al. Taste masked mouth dissolving tablet: an overview. *Int J Drug Dev Res.* 2012;4(1):19-29.
- [24]. Alagusundaram M, Karthikeyan M. Fast dissolving tablets: a review. *Int J Pharm Res Dev.* 2011;3(6):118-125.
- [25]. Vijayanand V, Pooja C. Fast dissolving tablets: a review. *J Pharm Res.* 2012;5(4):2087-2092.
- [26]. Kshirsagar SJ, Bhalekar MR, Madgulkar AR, Upadhye KP. Fast dissolving tablet: an overview. *J Glob Pharma Tech.* 2009;1(1):32-36.
- [27]. Kuchekar BS, Arumugam V, Badhan AC, Mahajan HS. Mouth dissolving tablets: a novel drug delivery system. *Pharm Times.* 2003;35(8):7-13.
- [28]. Vora DN, Padhya VD. Fast dissolving tablets: a novel approach to drug delivery. *World J Pharm Pharm Sci.* 2014;3(4):1133-1142.
- [29]. Sabitha M, Kavitha K, Bhowmik D, et al. Formulation and evaluation of orodispersible tablets of simvastatin. *Int J Pharm Investig.* 2011;1(2):119-124.
- [30]. Reddy LH, Murthy RS. Fast dissolving drug delivery systems: a review of the literature. *Indian J Pharm Sci.* 2002;64(4):331-336.
- [31]. Sharma N, Madhu C, Jindal M. Orally disintegrating tablets: formulation, preparation techniques and evaluation. *J Appl Pharm Sci.* 2011;1(6):35-45.
- [32]. Mittal A, Soni A, Gupta GN. A review on fast dissolving tablet. *Int J Pharm Pharm Sci.* 2010;2(1):35-42.
- [33]. Patel K, Patel J, Patel M, Patel M. A review on mouth dissolving tablet. *Int J Res Pharm Biomed Sci.* 2011;2(2):473-484.
- [34]. Dinge A, Nagarsenker M. Formulation and evaluation of fast dissolving tablets containing clonazepam. *AAPS PharmSciTech.* 2008;9(1):349-356.
- [35]. Kumar A, Ahuja A, Ali J, Baboota S. Fast dissolving tablets of diclofenac potassium: formulation and characterization. *Acta Pharm.* 2007;57(3):315-332.

- [36]. Morott JT, Pinal R. Physical and chemical stability of dosage forms. In: Aulton's Pharmaceutics: The Design and Manufacture of Medicines. Elsevier; 2013:371-391.
- [37]. Narendar D, Gowda DV. Taste masking of ondansetron hydrochloride by polymer carrier system and formulation of rapid-disintegrating tablets. *Acta Pharm.* 2010;60(1):51-60.
- [38]. Wu CY, Benet LZ. Predicting drug disposition via application of BCS: transport/absorption/ elimination interplay and development of a biopharmaceutics drug disposition classification system. *Pharm Res.* 2005;22(1):11-23.
- [39]. Zhang X, Wu Z, Hui K, Wu C. Fast dissolving oral films: an innovative drug delivery system and dosage form. *Int J Pharm.* 2016;511(1):603-611.
- [40]. Aggarwal G, Dhawan S, Harikumar SL. Orally disintegrating tablets: formulation, preparation techniques and evaluation. *J Appl Pharm Sci.* 2011;1(6):35-45.
- [41]. Kaushik D, Dureja H, Saini TR. Mouth dissolving tablets I: an overview of formulation technology. *Sci Pharm.* 2012;80(2):249-264.
- [42]. Chang RK, Guo X, Burnside BA, et al. Fast dissolving tablets. *Pharm Tech.* 2000;24:52-58.
- [43]. Bhowmik D, Chiranjib B, Jayakar B, Chandira R. Fast dissolving tablet: an overview. *J Chem Pharm Res.* 2009;1(1):163-177.
- [44]. Naikwade NS, Bajaj AN, Kulkarni PV. Mouth dissolving tablets: a novel drug delivery system. *Pharma Innov.* 2013;2(6):41-54.
- [45]. Bhagwat DA, Patil GB, Patil SD, Gavasane AJ. Fast dissolving tablet: a review. *IJRPC.* 2011;1(2):188-201.
- [46]. Subramanian R, Srinivasan N. A review on fast dissolving tablets. *Int J ChemTech Res.* 2009;1(3):526-533.
- [47]. Patil S, Mahaparale PR, Patil M, et al. Fast dissolving tablet: a review. *Int J Pharm Res Dev.* 2011;4(1):1-9.
- [48]. Chaudhari PD, Chaudhari SP, Maske ST. Fast dissolving tablet: a review. *J Pharm Res.* 2010;3(1):144-149.
- [49]. Sahoo CK, Beg S, Katare OP, et al. Formulation, optimization, and characterization of meloxicam co-crystals as novel solidified dispersions in orally disintegrating tablets. *AAPS PharmSciTech.* 2016; 17(6):1373-1385.
- [50]. Sunada H, Bi Y, Yonezawa Y, Danjo K. Preparation, evaluation and optimization of rapidly disintegrating tablets. *Powder Technol.* 2002;122(2-3):188-198.
- [51]. Kshirsagar SJ, Bhalekar MR, Upadhye KP. Fast dissolving tablet: an overview. *J Glob Pharma Tech.* 2009;1(1):32-36.
- [52]. Rajinikanth PS, Mishra B, Ekka N. Formulation, optimization and evaluation of fast dissolving tablets containing nebivolol hydrochloride using sublimation method. *Digest J Nanomater Biostruct.* 2010;5(2):359-364.
- [53]. Brahma N, Lakshmi PK, Harika B, Srinivasarao B. Formulation, evaluation and optimization of fast dissolving tablets of valsartan. *Int J Pharm Tech Res.* 2010;2(2):1588-1594.
- [54]. Sharma N, Agarwal D, Bhagat S. Development of fast dissolving tablets of telmisartan by effervescent approach. *Int J Pharm Biol Arch.* 2011;2(6):1680-1685.
- [55]. Sharma N, Sharma P. Formulation and optimization of fast dissolving tablets of enalapril maleate. *Int J Pharm Biol Sci.* 2013;3(1):405-414.
- [56]. Anis R, Riaz M, Shahzad Y, et al. Formulation and characterization of fast dissolving tablets of amlodipine besylate. *Acta Pol Pharm.* 2013;70(2):359-367.
- [57]. Shukla D, Chakraborty S, Singh S, Mishra B, Singh S. Preparation and evaluation of fast dissolving tablets of amlodipine besylate using solid dispersion technique. *J Appl Pharm Sci.* 2014;4(3):79-84.
- [58]. Dwivedi A, Sinha R, Sahu R. Formulation development and evaluation of fast dissolving tablet of nifedipine. *World J Pharm Sci.* 2014;2(11):1236-1249.
- [59]. Patil H, Tiwari RV, Upadhye SB, et al. Formulation and evaluation of fast dissolving tablet of simvastatin. *Int J Pharm Pharm Sci.* 2012;4(1):245-249.

- [60]. Singh R, Srivastava R, Chandel P. Formulation and evaluation of fast dissolving tablet of metoprolol succinate. *Der Pharm Lett.* 2014;6(2):125-133.
- [61]. Rathod VD, Rane YT, Murkute PP, Nandgude TD. Formulation and evaluation of fast dissolving tablets of metoprolol succinate. *World J Pharm Pharm Sci.* 2014;3(11):1564-1579.
- [62]. Shewale P, Mane M, Shirsath R, Nirmal S, Thonte S. Formulation and evaluation of fast dissolving tablets of carvedilol phosphate using co-processed superdisintegrants. *J Pharm Sci Res.* 2012;4(10):2043-2050.
- [63]. Patel VM, Prajapati BG, Patel MM. Formulation and optimization of mouth dissolve tablets of nimesulide using sublimation technique. *AAPS PharmSciTech.* 2007;8(3):E1-E6.
- [64]. Krishnaiah YS, Satyanarayana S, Rama Prasad YV, Narasimha Rao L. Development of oral fast disintegrating tablets of atenolol using camphor as subliming material. *Farmaco.* 2005;60(5):433-436.
- [65]. Patil BS, Rao YS, Srinivas PV, Raju VB. Formulation and evaluation of fast dissolving tablets of clozapine. *Int J Pharm Sci Nanotechnol.* 2011;4(2):1441-1447.
- [66]. Patil BS, Mahaparale PR, Shahi SR, et al. Taste masked mouth dissolving tablet: an overview. *Int J Drug Dev Res.* 2012;4(1):19-29.
- [67]. Kaur P, Garg T, Rath G, Goyal AK. Development and characterization of fast dissolving tablets of tadalafil. *Acta Pharm.* 2012;62(4):475-485.
- [68]. Singh D, Gautam S, Verma A, et al. Formulation and evaluation of fast dissolving tablets of sildenafil citrate. *Int J Pharm Sci Nanotechnol.* 2011;4(2):1566-1572.
- [69]. Prabhakaran K, Arunachalam A, Sambathkumar R, et al. Development of fast dissolving tablets of sildenafil citrate for enhanced bioavailability. *J Chem Pharm Res.* 2010;2(6):147-156.
- [70]. Pandey S, Paroha N, Dangi J, Mishra A, Giri S. Design and evaluation of fast dissolving tablets of sildenafil citrate. *Int J Pharm Sci Res.* 2012;3(9):2947-2951.
- [71]. Patel M, Patel V, Patel B. Formulation and characterization of fast dissolving tablets of zolmitriptan. *Int J Pharm Investig.* 2012;2(3):134-138.
- [72]. Ahmed TA, Aljaeid BM. Preparation, characterization, and potential application of chitosan, chitosan derivatives, and chitosan metal nanoparticles in pharmaceutical drug delivery. *Drug Des Devel Ther.* 2016;10:483-507.
- [73]. Rane BR, Tiwari SS, Quadir AM, et al. In vitro and in vivo evaluation of fast dissolving tablets containing solid dispersion of pioglitazone hydrochloride. *AAPS PharmSciTech.* 2009;10(4):1251-1257.
- [74]. Rajinikanth PS, Mishra B, Ekka N. Formulation, optimization and evaluation of fast dissolving tablets containing nebivolol hydrochloride using sublimation method. *Digest J Nanomater Biostruct.* 2010;5(2):359-364.
- [75]. Rao NS, Srinivas L. Formulation and evaluation of fast dissolving tablets of irbesartan. *Asian J Pharm Clin Res.* 2012;5(3):59-62.
- [76]. Kumar A, Ahuja A, Ali J, Baboota S. Formulation and characterization of solid self-emulsifying drug delivery system of meloxicam for enhancement of dissolution rate. *Int J Pharm Investig.* 2011;1(4):206-215.
- [77]. Kumar M, Sharma G, Shukla A, et al. A review on excipients used in oral disintegrating tablet. *J Drug Deliv Ther.* 2014;4(4):63-75.
- [78]. Kumar D, Patel D, Patel K, Chandel P. A review on: taste masking of bitter drug using different approaches. *Der Pharm Lett.* 2011;3(1):211-221.
- [79]. Verma RK, Garg S. Selection of excipients for melt-in mouth tablets of ondansetron hydrochloride using texture analysis data. *AAPS PharmSciTech.* 2005;6(3):E442-E448.
- [80]. Morott JT, Pinal R. Physical and chemical stability of dosage forms. In: *Aulton's Pharmaceutics: The Design and Manufacture of Medicines.* Elsevier; 2013:371-391.
- [81]. Zhang X, Wu Z, Hui K, Wu C. Fast dissolving oral films: an innovative drug delivery system and dosage form. *Int J Pharm.* 2016;511(1):603-611.
- [82]. Aggarwal G, Dhawan S, Harikumar SL. Orally disintegrating tablets: formulation, preparation techniques and evaluation. *J Appl Pharm Sci.* 2011;1(6):35-45.

- [83]. Kaushik D, Dureja H, Saini TR. Mouth dissolving tablets I: an overview of formulation technology. *Sci Pharm.* 2012;80(2):249-264.
- [84]. Chang RK, Guo X, Burnside BA, et al. Fast dissolving tablets. *Pharm Tech.* 2000;24:52-58.
- [85]. Bhowmik D, Chiranjib B, Jayakar B, Chandira R. Fast dissolving tablet: an overview. *J Chem Pharm Res.* 2009;1(1):163-177.
- [86]. Naikwade NS, Bajaj AN, Kulkarni PV. Mouth dissolving tablets: a novel drug delivery system. *Pharma Innov.* 2013;2(6):41-54.
- [87]. Bhagwat DA, Patil GB, Patil SD, Gavasane AJ. Fast dissolving tablet: a review. *IJRPC.* 2011;1(2):188-201.
- [88]. Subramanian R, Srinivasan N. A review on fast dissolving tablets. *Int J ChemTech Res.* 2009;1(3):526-533.
- [89]. Patil S, Mahaparale PR, Shahi SR, et al. Taste masked mouth dissolving tablet: an overview. *Int J Drug Dev Res.* 2012;4(1):19-29.
- [90]. Kaur P, Garg T, Rath G, Goyal AK. Development and characterization of fast dissolving tablets of tadalafil. *Acta Pharm.* 2012;62(4):475-485.
- [91]. Singh D, Gautam S, Verma A, et al. Formulation and evaluation of fast dissolving tablets of sildenafil citrate. *Int J Pharm Sci Nanotechnol.* 2011;4(2):1566-1572.
- [92]. Prabhakaran K, Arunachalam A, Sambathkumar R, et al. Development of fast dissolving tablets of sildenafil citrate for enhanced bioavailability. *J Chem Pharm Res.* 2010;2(6):147-156.
- [93]. Pandey S, Paroha N, Dangi J, Mishra A, Giri S. Design and evaluation of fast dissolving tablets of sildenafil citrate. *Int J Pharm Sci Res.* 2012;3(9):2947-2951.
- [94]. Patel M, Patel V, Patel B. Formulation and characterization of fast dissolving tablets of zolmitriptan. *Int J Pharm Investig.* 2012;2(3):134-138.
- [95]. Ahmed TA, Aljaeid BM. Preparation, characterization, and potential application of chitosan, chitosan derivatives, and chitosan metal nanoparticles in pharmaceutical drug delivery. *Drug Des Devel Ther.* 2016;10:483-507.
- [96]. Rane BR, Tiwari SS, Quadir AM, et al. In vitro and in vivo evaluation of fast dissolving tablets containing solid dispersion of pioglitazone hydrochloride. *AAPS PharmSciTech.* 2009;10(4):1251-1257.
- [97]. Rajinikanth PS, Mishra B, Ekka N. Formulation, optimization and evaluation of fast dissolving tablets containing nebivolol hydrochloride using sublimation method. *Digest J Nanomater Biostruct.* 2010;5(2):359-364.
- [98]. Rao NS, Srinivas L. Formulation and evaluation of fast dissolving tablets of irbesartan. *Asian J Pharm Clin Res.* 2012;5(3):59-62.
- [99]. Kumar A, Ahuja A, Ali J, Baboota S. Formulation and characterization of solid self-emulsifying drug delivery system of meloxicam for enhancement of dissolution rate. *Int J Pharm Investig.* 2011;1(4):206-215.
- [100]. Kumar M, Sharma G, Shukla A, et al. A review on excipients used in oral disintegrating tablet. *J Drug Deliv Ther.* 2014;4(4):63-75.
- [101]. Kshirsagar SJ, Bhalekar MR, Upadhye KP. Fast dissolving tablet: an overview. *J Glob Pharma Tech.* 2009;1(1):32-36.
- [102]. 2009;1(1):32-36.
- [103]. Rajinikanth PS, Mishra B, Ekka N. Formulation, optimization and evaluation of fast dissolving tablets containing nebivolol hydrochloride using sublimation method. *Digest J Nanomater Biostruct.* 2010;5(2):359-364.
- [104]. Brahma N, Lakshmi PK, Harika B, Srinivasarao B. Formulation, evaluation and optimization of fast dissolving tablets of valsartan. *Int J Pharm Tech Res.* 2010;2(2):1588-1594.
- [105]. Sharma N, Agarwal D, Bhagat S. Development of fast dissolving tablets of telmisartan by effervescent approach. *Int J Pharm Biol Arch.* 2011;2(6):1680-1685.
- [106]. Sharma N, Sharma P. Formulation and optimization of fast dissolving tablets of enalapril maleate. *Int J Pharm Biol Sci.* 2013;3(1):405-414.

- [107]. Anis R, Riaz M, Shahzad Y, et al. Formulation and characterization of fast dissolving tablets of amlodipine besylate. *Acta Pol Pharm.* 2013;70(2):359-367.
- [108]. Shukla D, Chakraborty S, Singh S, Mishra B, Singh S. Preparation and evaluation of fast dissolving tablets of amlodipine besylate using solid dispersion technique. *J Appl Pharm Sci.* 2014;4(3):79-84.
- [109]. Dwivedi A, Sinha R, Sahu R. Formulation development and evaluation of fast dissolving tablet of nifedipine. *World J Pharm Sci.* 2014;2(11):1236-1249.
- [110]. Patil H, Tiwari RV, Upadhye SB, et al. Formulation and evaluation of fast dissolving tablet of simvastatin. *Int J Pharm Pharm Sci.* 2012;4(1):245-249.
- [111]. Singh R, Srivastava R, Chandel P. Formulation and evaluation of fast dissolving tablet of metoprolol succinate. *Der Pharm Lett.* 2014;6(2):125-133.
- [112]. Rathod VD, Rane YT, Murkute PP, Nandgude TD. Formulation and evaluation of fast dissolving tablets of metoprolol succinate. *World J Pharm Pharm Sci.* 2014;3(11):1564-1579.
- [113]. Shewale P, Mane M, Shirsath R, Nirmal S, Thonte S. Formulation and evaluation of fast dissolving tablets of carvedilol phosphate using co-processed superdisintegrants. *J Pharm Sci Res.* 2012;4(10):2043-2050.
- [114]. Patel VM, Prajapati BG, Patel MM. Formulation and optimization of mouth dissolve tablets of nimesulide using sublimation technique. *AAPS PharmSciTech.* 2007;8(3):E1-E6.
- [115]. Krishnaiah YS, Satyanarayana S, Rama Prasad YV, Narasimha Rao L. Development of oral fast disintegrating tablets of atenolol using camphor as subliming material. *Farmaco.* 2005;60(5):433-436.
- [116]. Patil BS, Rao YS, Srinivas PV, Raju VB. Formulation and evaluation of fast dissolving tablets of clozapine. *Int J Pharm Sci Nanotechnol.* 2011;4(2):1441-1447.
- [117]. Patil BS, Mahaparale PR, Shahi SR, et al. Taste masked mouth dissolving tablet: an overview. *Int J Drug Dev Res.* 2012;4(1):19-29.
- [118]. Kaur P, Garg T, Rath G, Goyal AK. Development and characterization of fast dissolving tablets of tadalafil. *Acta Pharm.* 2012;62(4):475-485.
- [119]. Singh D, Gautam S, Verma A, et al. Formulation and evaluation of fast dissolving tablets of sildenafil citrate. *Int J Pharm Sci Nanotechnol.* 2011;4(2):1566-1572.
- [120]. Prabhakaran K, Arunachalam A, Sambathkumar R, et al. Development of fast dissolving tablets of sildenafil citrate for enhanced bioavailability. *J Chem Pharm Res.* 2010;2(6):147-156.
- [121]. Pandey S, Paroha N, Dangi J, Mishra A, Giri S. Design and evaluation of fast dissolving tablets of sildenafil citrate. *Int J Pharm Sci Res.* 2012;3(9):2947-2951.
- [122]. Patel M, Patel V, Patel B. Formulation and characterization of fast dissolving tablets of zolmitriptan. *Int J Pharm Investig.* 2012;2(3):134-138.
- [123]. Ahmed TA, Aljaeid BM. Preparation, characterization, and potential application of chitosan, chitosan derivatives, and chitosan metal nanoparticles in pharmaceutical drug delivery. *Drug Des Devel Ther.* 2016;10:483-507.
- [124]. Rane BR, Tiwari SS, Quadir AM, et al. In vitro and in vivo evaluation of fast dissolving tablets containing solid dispersion of pioglitazone hydrochloride. *AAPS PharmSciTech.* 2009;10(4):1251-1257.
- [125]. Rajinikanth PS, Mishra B, Ekka N. Formulation, optimization and evaluation of fast dissolving tablets containing nebivolol hydrochloride using sublimation method. *Digest J Nanomater Biostruct.* 2010;5(2):359-364.
- [126]. Rao NS, Srinivas L. Formulation and evaluation of fast dissolving tablets of irbesartan. *Asian J Pharm Clin Res.* 2012;5(3):59-62.
- [127]. Kumar A, Ahuja A, Ali J, Baboota S. Formulation and characterization of solid self-emulsifying drug delivery system of meloxicam for enhancement of dissolution rate. *Int J Pharm Investig.* 2011;1(4):206-215.
- [128]. Kumar M, Sharma G, Shukla A, et al. A review on excipients used in oral disintegrating tablet. *J Drug Deliv Ther.* 2014;4(4):63-75.
- [129]. Kumar D, Patel D, Patel K, Chandel P. A review on: taste masking of bitter drug using different approaches.

- [130]. Der Pharm Lett. 2011;3(1):211-221.
- [131]. Verma RK, Garg S. Selection of excipients for melt-in mouth tablets of ondansetron hydrochloride using texture analysis data. AAPS PharmSciTech. 2005;6(3):E442-E448.
- [132]. Morott JT, Pinal R. Physical and chemical stability of dosage forms. In: Aulton's Pharmaceutics: The Design and Manufacture of Medicines. Elsevier; 2013:371-391.
- [133]. Zhang X, Wu Z, Hui K, Wu C. Fast dissolving oral films: an innovative drug delivery system and dosage form. Int J Pharm. 2016;511(1):603-611.
- [134]. Aggarwal G, Dhawan S, Harikumar SL. Orally disintegrating tablets: formulation, preparation techniques and evaluation. J Appl Pharm Sci. 2011;1(6):35-45.
- [135]. Kaushik D, Dureja H, Saini TR. Mouth dissolving tablets I: an overview of formulation technology. Sci Pharm. 2012;80(2):249-264.
- [136]. Chang RK, Guo X, Burnside BA, et al. Fast dissolving tablets. Pharm Tech. 2000;24:52-58.
- [137]. Bhowmik D, Chiranjib B, Jayakar B, Chandira R. Fast dissolving tablet: an overview. J Chem Pharm Res. 2009;1(1):163-177.
- [138]. Naikwade NS, Bajaj AN, Kulkarni PV. Mouth dissolving tablets: a novel drug delivery system. Pharma Innov. 2013;2(6):41-54.
- [139]. Bhagwat DA, Patil GB, Patil SD, Gavasane AJ. Fast dissolving tablet: a review. IJRPC. 2011;1(2):188-201. 138.Subramanian R, Srinivasan N. A review on fast dissolving tablets. Int J ChemTech Res. 2009;1(3):526-533. 139.Patil S, Mahaparale PR, Shahi SR, et al. Taste masked mouth dissolving tablet: an overview. Int J Drug Dev Res. 2012;4(1):19-29.
- [140]. Kaur P, Garg T, Rath G, Goyal AK. Development and characterization of fast dissolving tablets of tadalafil. Acta Pharm. 2012;62(4):475-485.
- [141]. Singh D, Gautam S, Verma A, et al. Formulation and evaluation of fast dissolving tablets of sildenafil citrate. Int J Pharm Sci Nanotechnol. 2011;4(2):1566-1572.
- [142]. Prabhakaran K, Arunachalam A, Sambathkumar R, et al. Development of fast dissolving tablets of sildenafil citrate for enhanced bioavailability. J Chem Pharm Res. 2010;2(6):147-156.
- [143]. Pandey S, Paroha N, Dangi J, Mishra A, Giri S. Design and evaluation of fast dissolving tablets of sildenafil citrate. Int J Pharm Sci Res. 2012;3(9):2947-2951.
- [144]. Patel M, Patel V, Patel B. Formulation and characterization of fast dissolving tablets of zolmitriptan. Int J Pharm Investig. 2012;2(3):134-138.
- [145]. Ahmed TA, Aljaeid BM. Preparation, characterization, and potential application of chitosan, chitosan derivatives, and chitosan metal nanoparticles in pharmaceutical drug delivery. Drug Des Devel Ther. 2016;10:483-507.
- [146]. Rane BR, Tiwari SS, Quadir AM, et al. In vitro and in vivo evaluation of fast dissolving tablets containing solid dispersion of pioglitazone hydrochloride. AAPS PharmSciTech. 2009;10(4):1251-1257.
- [147]. Rajinikanth PS, Mishra B, Ekka N. Formulation, optimization and evaluation of fast dissolving tablets containing nebivolol hydrochloride using sublimation method. Digest J Nanomater Biostruct. 2010;5(2):359-364.
- [148]. Rao NS, Srinivas L. Formulation and evaluation of fast dissolving tablets of irbesartan. Asian J Pharm Clin Res. 2012;5(3):59-62.
- [149]. Kumar A, Ahuja A, Ali J, Baboota S. Formulation and characterization of solid self-emulsifying drug delivery system of meloxicam for enhancement of dissolution rate. Int J Pharm Investig. 2011;1(4):206-215.
- [150]. Kumar M, Sharma G, Shukla A, et al. A review on excipients used in oral disintegrating tablet. J Drug Deliv Ther. 2014;4(4):63-75.