

Chirk Jenn Ng¹, Pauline Siew Mei Lai¹, Yew Kong Lee¹, Syahidatul Akmal Azmi¹

¹Department of Primary Care Medicine, University of Malaya Primary Care Research Group (UMPCRG), Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur, Malaysia

BACKGROUND

Despite the proven benefits and efficacy of insulin, up to 27% of patients are reluctant to initiate insulin therapy. ¹

OBJECTIVE

To identify the barriers and facilitators to starting insulin in patients with type 2 diabetes.

METHODS

- ❖ We conducted a systematic search using PubMed (1966-2011) for all relevant studies using Medical Subject Headings (MESH) terms: “type 2 diabetes”, “insulin”, and free texts: “barrier” or “facilitate”.
- ❖ Both qualitative and quantitative studies were included.
- ❖ Two pairs of reviewers independently selected, assessed and extracted the data.
- ❖ Study quality was assessed using the Quallsyst. ²

RESULTS

- ❖ A total of 7104 references were identified: 18 full text articles were selected and assessed for eligibility. Finally, 15 papers (8 qualitative and 7 quantitative) were included in the review. (Figure 1)
- ❖ Good inter rater reliability (ICC = 0.805) was observed for the QualSyst score.
- ❖ Three main themes identified were: patient-related, healthcare professional and system factors (Table 1)
- ❖ The main patient-related barriers were fear of needle and pain, followed by negative perceptions of insulin, emotional barriers and a lack of knowledge/misconception about insulin. Patients’ belief that insulin improved their symptoms and the health benefits of insulin were the most frequently cited facilitators to start insulin. More barriers than facilitators were reported
- ❖ Healthcare professionals’ barriers were: lack of knowledge and skills, poor doctor patient relationship and poor communication.
- ❖ System barriers included lack of dedicated diabetes services and educational resources.

Figure 1: Flow chart of studies included in the systematic review

Identification

7104 references identified

Excluded (n=7024)
Not relevant (n=7024)

Screening

80 references

Excluded (n=62)
a) Not relevant (n = 29)
b) Review articles (n = 28)
c) Letters (n = 5)

Eligibility

18 full-text articles assessed for eligibility

Excluded (n=7)
a) Not on insulin initiation (n = 2)
b) Not on barrier (n = 2)
c) Patients do not specified the inclusion criteria (n = 2)
d) Not relevant (n = 1)

11 references + 6 reference mining = 17 references

Excluded (n=2)
a) Not on insulin initiation (n = 2)

Included

15 studies included in review

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Table 1: Taxonomy of barriers and facilitators of insulin initiation in type 2 diabetes

Barriers	No. of studies in which this factor was identified as a barrier [reference no.]	Facilitators	No. of studies in which this factor was identified as a facilitator [reference no.]
Patient-related factors			
▪ Insulin related factors			
• Fear of needle and pain	11 [3, 6, 7, 9, 11-17]	• Benefits of insulin (improve sugar control, more effective than oral medications, prolong life, reduce complications)	6 [3, 4, 9, 11, 13, 17]
• Side effects of insulin	7 [3, 7, 9, 12-14, 16]	• Timing of insulin initiation - initiate early	1 [9]
• Barriers in administering	7 [3, 9, 11-13, 15, 17]	• Able to self adjust insulin dosage	1 [11]
• Hassle of home glucose monitoring	3 [9, 12, 14]	• Dummy injections	1 [9]
		• Hands-on demonstration	1 [9]
▪ Negative perceptions of insulin	9 [3, 7, 9, 11-16]	▪ Improved health (Feeling better with insulin and better quality of life)	6 [3, 4, 9, 11, 13 17]
▪ Emotional barriers	9 [3, 4, 9, 11-13, 15-17]	▪ Poor physical health (feeling unwell)	1 [9]
▪ Lack of knowledge/Misconception about insulin side effects	8 [3, 4, 6, 7, 11-13, 15, 16]	▪ No choice	1 [14]
▪ Socio-demographic factor	5 [3, 7, 11, 12, 15]		
▪ Negative attitudes	5 [3, 6, 9, 12, 15]		
▪ Lack of self efficacy/skills	2 [13, 16]		
▪ Social factors			
• Inconvenience	7 [3, 9, 11-13, 15, 16]	• Peer support	2 [4, 9]
• Interference with social and work activities	6 [4, 7, 11-13, 15]	• Partner support	1 [4]
• Stigma and discrimination	5 [3, 4, 9, 13, 15]		
• Lack of social support	1 [10]		
Healthcare professional factors			
▪ Lack of knowledge and skills	5 [4, 5, 10, 12, 15]	▪ Providing patient education/health information	2 [4, 6]
▪ Lack of doctor-patient relationship	4 [12-15]	▪ Effective communication	2 [14, 17]
▪ Communication barriers	2 [7, 12]	▪ Setting glycaemic target with patients	1 [9]
▪ Not involving patients in decision making	2 [4, 9]	▪ Involving patients in decision making	1 [9]
▪ Negative attitudes	1 [7]		
System factors			
▪ Lack of diabetes services	1 [9]	▪ Patient education	1 [6]
▪ Lack of education resource	1 [7]	▪ Giving enough time	1 [9]
		▪ Follow up	
		○ with telephone calls	
		○ giving telephone contact to patients	1 [9]
		○ regular follow up	
		▪ Initiating insulin in primary care (vs secondary care)	1 [8]
		▪ Referral to specialists	1 [14]

DISCUSSION

- ❖ This review identified a range of factors (patient-related, healthcare professional, and system factors) that healthcare professionals should consider when advising patients with type 2 diabetes to initiate insulin.
- ❖ Quality of papers were good. Most achieved QualSyst scores of >0.7.
- ❖ Inter-rater agreement was also good.
- ❖ Key barriers to insulin initiation in patient with type 2 diabetes appear to be patient-related factors. Fear of pain and needles, concerns about the side effects of insulin and the complexity of delivering the insulin were major hurdles in insulin initiation.
- ❖ Main facilitators focused on the clinical benefits of insulin in reducing symptoms and complications, improving survival and quality of life. Providing patients with accurate health information and education can help them make a more informed decision about starting insulin therapy.
- ❖ This review aimed to identify the range of factors that influence insulin initiation. It does not quantify the frequency of these factors.
- ❖ Patients and healthcare professionals have different views on which barriers and facilitators are more relevant to patients.

CONCLUSION

This systematic review identified several barriers that influence insulin initiation in patients with type 2 diabetes: patient-related, healthcare professional, and system factors. Facilitators to insulin initiation were reducing symptoms, complications and improving survival and quality of life. When counselling patients who are considering insulin, it is important to explore the barriers faced by patients and to address them accordingly. Suitable interventions will need to be developed to overcome these barriers.

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