and Haller, 2019). Other finding which was found to be similar with this review study have reported the improvement in the glycemic level by reduction in the level of glycated hemoglobin and reduction in frequency of hypoglycemia (Rodbard, 2016; Dimeglio *et al.*, 2018). The use of closed loop system has been shown to reduce severe hypoglycemia by study done by Breton MD with his fellows (Breton *et al.*, 2018).

From this finding we found that use of diabetes technological devices in the management of youths or adolescents with type 1 diabetes to be effective and it was shown to have statistical significance as these devices can provide adequate information of the glycemic level trends and even sometimes there are devices which can sense lowering or raising in the glycemic level then give an alarm or to shoot required amount of insulin if using closed loop system. By this mechanism there is high pace of regulating glycemic level which led to prevention or reduction of hypoglycemic incidence as a result improve an individual quality of life with no stress, distress or fear of hypoglycemia.

CONCLUSION

Generally, this review study points out the clinical significance of using continuous glucose monitor and/or insulin pump that it improves glycemic control, reduce incidence of severe hypoglycemia and diabetes distress. Reduction of glycated hemoglobin by about 0.9% of its baseline value, about 8% increase in time spent in nearly norm glycemic range, reduction of incidence of hypoglycemia by about 10 to 48%. As adolescents are increasingly accessing technologies it is paramount important to address benefits of using diabetes technological devices further research is hence needed to assess accessibility of devices to emerging adults.

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Authors' Contributions

MSG conceptualized the project, undertook the systematic review and drafted the manuscript. RM contributed to the supervision of the junior researchers and manuscript review. AK contributed to the conceptualization of the project, planning methodology, supervision of the junior researchers and manuscript review.

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All authors agree to have this paper published

Competing interest

The authors declare that they have no conflicts of interests

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