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Blog 1

Title- Diabetes and Digital therapeutics

Introduction

Diabetes cannot be cured fully, although some novel treatment methods are being investigated (Khan and Agarwal, 2023). Consultation with a doctor may be beneficial in finding suitable diabetes therapy strategies. There are a lot of modern therapies for diabetes. Moreover, digital tools are also being implemented to cure this disease.

Diabetes and digital therapeutics

Diabetes is one of the leading causes of illness and death worldwide. It affects people of various ages, genders, and countries. 537 million people in the world between the ages of 20 and 79, have diabetes. This figure is predicted to rise to 643 million and 783 million by 2030 and 2045, respectively (IDF Diabetes Atlas, 2022).



Figure 1: Managing diabetes

(Source: Lowell General, 2023)

Patients can utilise software programmes called digital therapeutics (DTx) to treat, prevent, or manage diabetes. These evidence-based treatments are software-driven and are intended to prevent, manage, or treat diabetes. In today's world, DTx plays a vital role in curing diabetes.

Applications of digital therapeutics for diabetes

Glucose monitoring technology

A glucose monitoring system can be used to measure blood glucose or blood sugar. By using it, diabetic patients can check their blood glucose levels at any moment and watch how it varies over the course of a few hours or days. There are a lot of glucose monitoring systems that help to control diabetes.

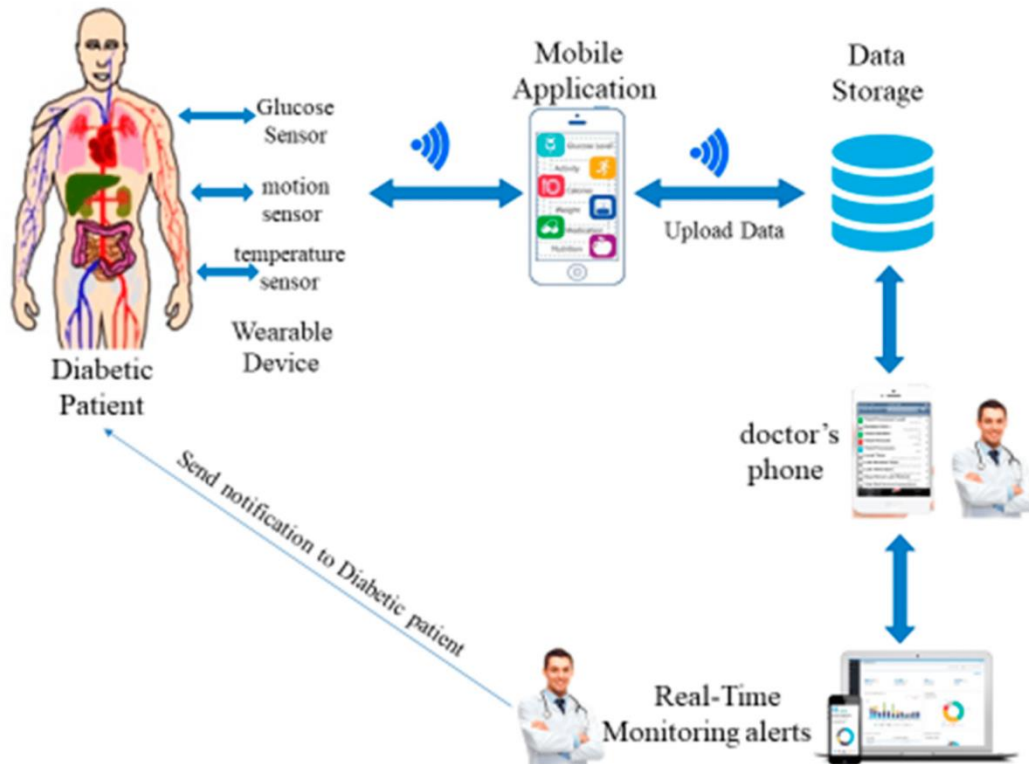


Figure 2: Smart glucose monitoring

(Source: Rghioui *et al.* 2020)

For instance, a glucose monitoring system app can be designed to detect blood glucose levels in diabetics. For example, there are a lot of existing apps of this type such as the FreeStyle Libre Link app, which is utilised in conjunction with the FreeStyle Libre sensor (Whelan *et al.* 2019). The FDA-approved app is compatible with the FreeStyle Libre 2 sensor. The FreeStyle Libre 2 Flash glucose monitoring system is created for people aged four and up who have insulin-dependent diabetes mellitus. Therefore, similar digital technology with more features like better tracking and analysis can be offered to individuals of all ages.

Benefits and challenges of digital therapeutics

By using the glucose monitoring devices, patients can prevent emergency room visits and stay on target with their blood glucose levels (Shi *et al.* 2021). Additionally, success in controlling blood glucose levels over the long-term can reduce the risk of heart and kidney. However, these systems have negative aspects too, as these contain several challenges. These include discomfort, skin issues caused by adhesive strips, alarm fatigue, accuracy concerns, lost sensor connectivity, variations in capillary glucose measurements, and disruptions to daily activities and exercise (Oriot *et al.* 2023).

Conclusion

Diabetic patients can use a glucose monitoring system to monitor their blood glucose levels at any time and stay on target of their blood glucose levels. However, fatigue and accuracy concerns are the key challenges in these systems.

Blog 2

Title- Going Pregnant? The Best Things You Can Do To Help Your Skin Stay in Pristine Condition

Introduction

Pregnancy usually brings several changes in a woman's body, due to hormonal fluctuations. One of the most visible and significant changes in a woman's body can be noticed during pregnancy is skin changes (American Pregnancy, 2023). Considering this aspect, the blog is focused on analysing the discussion of digital technologies that can help pregnant women's skin to stay in pristine condition.

The public health problem



Figure 1: Body changes during pregnancy

(Source: Wisner, 2021)

Pregnancy usually brings several changes in women's skin, which sometimes becomes a concern for pregnant women (Wisner, 2021). This is because during pregnancy women generally encounter skin-related issues including melasma, stretch marks, acne, skin itching, and rashes (Hasan *et al.* 2020). These skin-related issues become the reasons for self-consciousness as well as discomfort of pregnant women

(American Pregnancy, 2023). However, it is important to consider that these types of changes in skin during pregnancy are temporary.

The designed digital technology

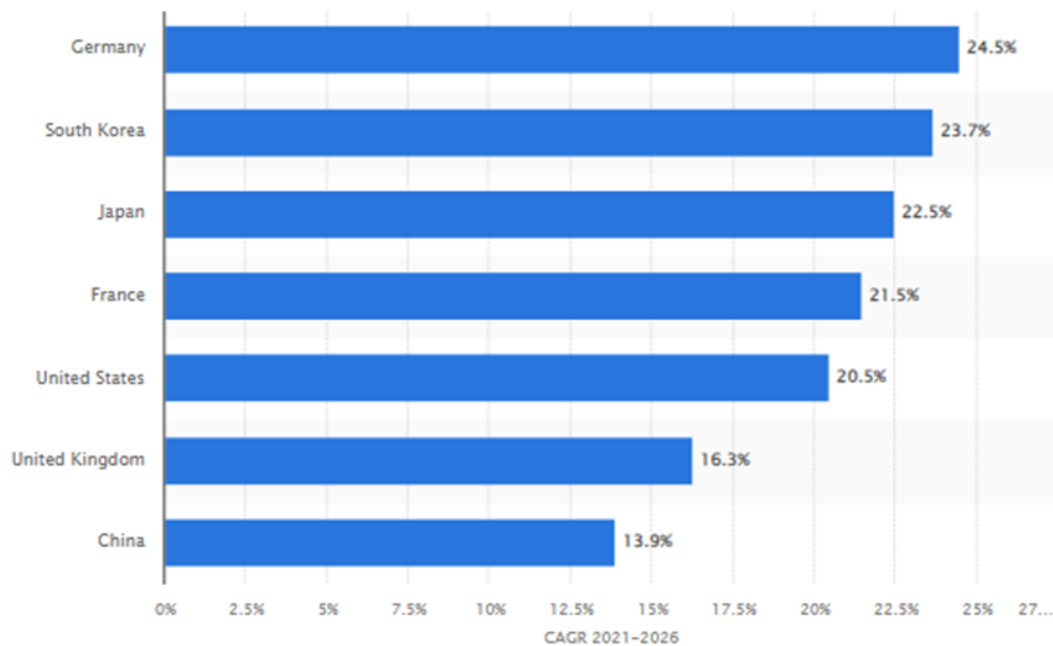


Figure 2: Beauty tech market growth

(Source: Sabanoglu, 2023)

In recent years, AI-powered skin care analysis has become one of the most commonly used digital technologies for skin care. In various countries including South Korea, Germany, the UK, the US, and China, the beauty take market has been growing significantly, as reflected in the above figure (Sabanoglu, 2023). Hence, bringing a new digital solution to the skin-related concerns particularly for pregnant women by considering hormonal changes during pregnancy, can be beneficial. In this regard, AI-powered skin analysis allows individuals to monitor skin conditions and specify issues for further treatment (Economic Times, 2023). This digital technology can be modified by considering the requirements of pregnant women.

The use of improved AI-Powered Skin Analysis For Pregnant Women in health promotion, and its advantages and disadvantages

Specifically, for pregnant women, AI-powered skin analysis technology can be improved to recognise the skin-related issues of pregnant women by considering a

database of skincare recommendations that are safe for pregnant women and customising AI algorithms that can consider specific types of changes in women's skin during pregnancy (Davidson and Boland, 2020). For example, AI-powered skin care analysis and recommendation technology can include general skincare routines for pregnant women including prioritise hydration, managing stress levels, and avoiding harsh chemicals. This is because pregnant women face these types of issues (Giudice *et al.* 2021). Apart from these advantages, this modified digital technology can also bring some disadvantages including data privacy concerns, accessibility, and effective understanding of the complexity of pregnancy. However, these shortfalls can be addressed by ensuring script compliance with regulations related to data privacy and emphasizing affordability.

Conclusion

An improved AI-powered skin analysis tool for pregnant women can help to address the issue of skin-related concerns of pregnant women. This technology cannot only help pregnant women to find effective analyses regarding their skin condition but also help them to get personalized recommendations.

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Poster:

