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**Module: Population health and digital health promotion
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ASSESSMENT COMPONENT 1

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Task 1

Blog 1

Obesity is one of the significant health issues which should be addressed as it will support to develop the health and have a better outcome effectively. It is a complex health issue where the person has high body fat. The prevalence of the disease in UK England among adults is around 25% and 37.9% of the people are overweight and not obese (Parliament. UK 2023).

Choice of technology

Technology in healthcare has become more important nowadays where it would monitor and protect people's health facing issues like obesity. It will give good knowledge about the patient's condition and take the right action accordingly.

The technology that has been chosen for this blog, is the technology of wearable devices because it is one effective initiative as it will reduce the body weight among people who are overweight or obese.

It would monitor physical and emotional well-being where it gives better knowledge about overall health and avoids health issues effectively because of the wireless functionality that these devices provide to the user (Kao *et al.* 2019). It would monitor the weight and address the problem of obesity for the people affected by this problem. There are various methods like smart watches, medical sensors and fitness bands and many more(Kao *et al.* 2019).



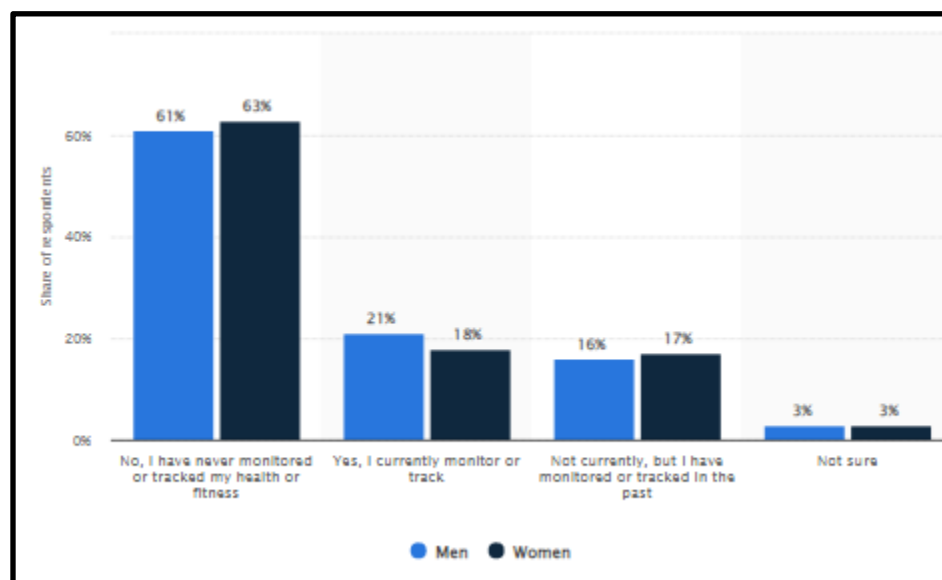
Selection of technology

Fitness bands are mostly used by the patient for their ease of use which would give a better effect on their health efficiently. Many people have used fitness bands to maintain their health in the UK where around 18% of women and 21% of men have used the technology which is lower where it requires better awareness to address the issues in their health (Laricchia 2016). These fitness trackers are connected to smartphones to manage their diet and physical activities and give feedback to them (Holzmann *et al.*, 2019). Some examples of fitness bands that are available for the population to use, includes the redmi fitness band, which has different features such as the heart rate monitoring feature, steps count, calories burnt, different sports mode, and also tracks the blood oxygen level at the same time. Apart from the redmi fitness band, there are various other companies to choose from such as noise, boat, fastrack. If the requirement of the user is something more accurate and the budget of the user is more as compared to others, then another option could be the Samsung Watch series, which provides more features and also provides more accuray as well. These gadgets are available on online shopping platforms such as Amazon and Flipkart. The links of these gadgets are pasted below:

https://www.amazon.in/Redmi-SportsWatch-Display-Continuous-Monitoring/dp/B09Q92JKN G / r e f = s r _ 1 _ 2 ? keywords=redmi+fitness+band+7&qid=1690044953&sprefix=redmi+fitness%2Caps%2C442&sr=8-2

https://www.amazon.in/Samsung-Galaxy-Bluetooth-Compatible-Android/dp/B09D G 9 V N W B / r e f = s r _ 1 _ 4 ? keywords=samsung+watch+4&qid=1690044994&sprefix=samsung+%2Caps%2C397&sr=8-4

https://www.amazon.in/Fitbit-Inspire-Fitness-Tracker-Included/dp/B08DFGPTSK/ r e f = s r _ 1 _ 1 ? keywords=fitbit+fitness+band&qid=1690045066&sprefix=fitbit+fitness%2Caps%2C285&sr=8-1



Effect of fitness band

The advantage of a fitness band is that it would monitor and record the heart rate and give information about burned calories and their steps. It would support them to work towards their health and motivate them to stay fit. On the other hand, it is not accurate

all the way, expensive and privacy issues are there as a disadvantages.(Holzmann *et al.*, 2019).

Addressing shortfall

To manage the disadvantages like operate the fitnessband, users should have get an education and training that how to use fitness bands, Regular charging and maintenance is also important. Organise educational events to inform people about the benefits of fitness bands for managing one's weight and the best ways to utilise them(Wang et al., 2022).

Blog 2

Knowledge about mental health should be understood as it affects both the mental and physical factors of the patient with unhealthy mind and body According to NHS (2023), In 2022, there were 22.0% of young adults aged 17 to 24 and 18.0% of children aged 7 to 16 who had a suspected mental condition(NHS, 2022).

Taking technology

Technology adoption in healthcare is an essential component where it provides a better improvement in the management of the health for the people in the healthcare settings effectively. "MindScape" is an innovative virtual reality (VR) therapeutic platform intended to promote compassion and to help people who struggle with mental health issues. This immersive digital health technology uses virtual reality to provide a great experience that involve users to put themselves in the shoes of those with mental health disorders. Virtual reality (VR) advancements have the power to fundamentally alter the way that mental health is assessed.

The VR platform uses advanced emotion-reading software that analyses users' body language and facial expressions. This makes it possible for "MindScape" to detect the user's emotional response throughout the encounter and dynamically modify the situations for a more unique and sympathetic voyage.



Use of the technology

The Virtual reality would give an opportunity to manage mental health where it would support enhancing the mental health outcome which would provide information about

the mental health issue. Users may use VR headsets or other suitable devices to view "MindScape" on the virtual reality platform. The platform need to provide easy-to-follow navigational directions. Create the virtual reality therapeutic platform, containing a database of scenarios and sympathetic narratives, by working with VR developers and mental health professionals. Moreover, VR Hardware is the thing which needs to get and set up the suitable VR headsets and other equipment that players will need to access "MindScape". This will be operated by the person who is suffering and is monitor by mental health specialist. Moreover, Verify that the equipment is up-to-date, maintained, and in excellent operating order. In addition, Use data analytics to track modifications in users' feelings of empathy and feelings about mental health disorders over time.

Effect of mobile application

The benefits of the Virtual reality is that it would lower risk to getting condition worse by tracking and monitoring which would have a better impact on the mental health as its provide intensive therapy, distraction from pain and discomfort, emotional support and mindfulness, and reducing stigma. In contrast, the issue of data privacy should be maintained that affects the people using the Virtual reality. Addiction and overuse, dependence on technology, cost and motion sensitivity are also disadvantages of using Virtual reality.



Overcoming shortfall

The problem like data privacy and protection could be solved by using the authentication processes where it would manage the issue and protect the information for the people. It would use passwords to protect the information and have a good effect

on their health. In addition having, long term studies and use feedback to overcome issues like addiction and overuse of the virtual reality.

Task 2

ASSESSMENT COMPONENT 1

Background

The issue of obesity should be addressed where it has a negative implication on people's health. According to Ritchie (2017), it was found that around 13% of adults in the world are obese whereas 39% of adults are overweight which should be maintained to have a good health result. The survey has said that 68.9% of men and 59.0% of women in the UK are obese or overweight which is higher for men where it would require interventions to manage the health issue efficiently (Parliament, uk 2023).

With this high prevalence, it would require better interventions to have good health among the people. There are various interventions like monitoring diet and physical activity where it would reduce body weight. The technologies are also used like smart watches, medical sensors and mobile applications to manage the health of people which would give a better outcome effectively. These methods would track and monitor the tasks and help people to manage their health issues effectively. The digital health technology that is chosen is fitness band where it determines body weight and control activities to achieve better health. This method would ensure the monitoring of the activities of the people and have a better effect on their health outcomes.

Health promotion values and principles

The health promotion values and principles should be considered where it would support managing the issues and promoting physical and emotional wellbeing which would have a better effect on the people. The values are equity, empowerment and social justice which will be followed by people to have good health outcomes. Equality and empowerment would encourage and manage people's needs and rights and social justice would give a fair chance to gain more knowledge and access for each people. The values like equality should be promoted where it will consider the needs of the people in society to have good health (World Health Organization 2021).

The principles are health concepts, empowerment, community participation and actions which should be maintained to promote the program and achieve its aims effectively. The concepts would help to have better knowledge and empowerment would motivate them to participate in the activity and actions would be used to maintain health in a better way. The digital technology would be aligned with principles and values where the smartwatch would be available to every person and give equal information according to their needs and encourage the people to work towards their health and participate in every activity together to attain their goals effectively. The collection of huge data would be addressed to protect the data which would support maintaining the quality by using the multi-party computation methods which would balance the data and give security to the data and promote the use of digital smartwatches to manage health efficiently (Diou et al., 2019). With these factors, it is aligned with the principles and values of health promotion which would help to have a scope to use technology to improve the health of the people affected with obesity. It would follow equality and participation among the people which would influence them to use the method effectively.

Health Promotion Values

- Empowerment
- Participation
- Social Justice/Equity
- Respect
- Priority to common good
- Choice
- Positive health

Behaviour change theory

The health belief model could be used as one of the theoretical aspects where it is the method where the people's belief that their health could be more prone to health issues could be an advantage to manage the problems related to individual behaviour to avoid the issue where it would understand the perception of the people and provide implication of the health condition which will help them to take actions towards the issue. It is one of the models where it gives better knowledge about the health problems and behaviour associated with issues where it would use interventions to improve health effectively (Wong et al., 2020). It would understand the behaviour of the patient towards the health issue and provide better knowledge of perceived benefits of actions and their barriers with proper engagement to promote good behaviour to use the intervention.

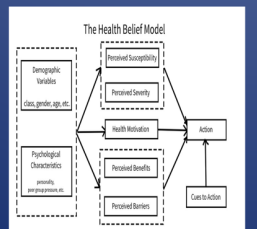
This model would support the practitioners to give knowledge about the negative implications of obesity for their patients such as overweight, heart problems and diabetes which could be managed by monitoring and controlling with smartwatches where it would maintain their health for the future. It would promote the use of wearable devices where it gives an advantage in gaining better patient information and help doctors to have better assessment and counselling in the healthcare setting and give better intervention for the people and have better health effectively (Hekrohn et al., 2020). The issue of privacy of data should be maintained by using actions like better passwords that would manage the barrier and support the people to use the intervention and protect their health from obesity. It has given new hope to record and understand eating habits and it has a crucial role to promote a good lifestyle with proper methods that would have a better impact on health (Kamachi et al., 2021). This model would give more information about the effect of obesity by laying out the issues and benefits of the behaviour of not using the action like smart watches and developing the health issue and creating a better result for the people. It would support learning about the monitoring practices and understanding the relationship between the machine and user and also determine the issues like data privacy which should be considered to manage the information and promote the use of wearable devices and obtain the aims to have better health impacted with obesity and have better performance in society effectively (De Moya et al., 2019). This process could be implemented by using this approach where it would address the behaviour towards the technology and have a good outcome in health for the people. It would help to have better personalized guidance options for the patients to maintain their health which would have a better influence on the use of technology (Schembre et al., 2020). With these factors, it can be said this approach would support to manage the issue of obesity and enhance the knowledge of people to use technology like smart watches which would improve the quality of health as well as lifestyle and reach the objectives of using technology in healthcare.

Conclusion

The background of obesity was explained which has high prevalence in the world and the UK which should be developed by using strategies that would have a good effect on the people. The health promotion values and principles with the alignment of the use of smart watches were discussed to manage the issue of obesity. The health belief model was explained where it would implement the smart watch for monitoring the weight of people and having a good quality of life. The expected outcome was also explained where it would support to gain the implementation of the method and have a lower case of obesity for the people and have a good impact on health. There is an implication of smart watches where the data security should be maintained and the policy should have better methods to overcome the issue and have a better effect on the people. It has an issue of lack of knowledge about the use of smart watches which should be managed by using strategies to have good information on the issues of obesity and maintain health effectively. It also creates an issue in research where the research on smart watches has not developed or reached the level to support the researchers or clinicians to manage obesity for the people.

Expected outcome

The expected outcome would be that where there would be reduced obesity cases and the promotion of a healthy lifestyle by having better control and monitoring of health and body weight and making them fit to have a better quality of life for people effectively. It would give an opportunity to improve the issue of obesity and enhance the health outcome. It would give a better analysis of a person's health in real-time suffering from a chronic disease like obesity where it would set the goal with personalized engagement with targets such as daily steps as a mark of physical activity (Mattison et al., 2023). It would also enhance the use of technology in the field of healthcare which would promote the physical and emotional well-being of the people. The advances in technology and where it could use wearable devices like smart watches which would give better information and give better dietary approaches for every patient affected by the disease of obesity (Viarrasa et al., 2021). With these factors, it will expect the outcome of more use of smart watches to maintain the health of the people. It would support lowering the prevalence of the health issue and meeting the goals effectively.



Almost three quarters of people aged 45-74 in England are overweight or obese



Figure 1: Prevalence of obesity in the UK (Source: parliament, uk 2023)

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Poster

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