

Exploring the Use and Adoption of Wearable Physical Activity Trackers in Oil-Rich Nations: A Qualitative Study of Youth Perspectives from Kuwait

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Abstract

This study aimed to uncover participants' perspectives about the use of self-tracking wearables and describe the barriers and motivators for adopting them. Qualitative data were collected through semi-structured interviews. The analysis of the transcribed interview followed a thematic analysis approach and utilized the Framework method. The findings highlight the importance of wearables to increase physical activity health interventions targeting sedentary lifestyles.

Keywords:

Health informatics, Physical activity, Kuwait

Introduction

Personalised preventative health care strategies have become a significant focus for many health care systems worldwide [1]. Physical activity and exercise are essential components of personalized preventive care strategies and can improve the quality of life substantially [2]. However, people living in modern industrialized societies today live a lifestyle characterized by widespread sedentary behaviours and low physical activity rates catalysed by the use of technology-based tools and applications [3]. Wearable activity trackers, have been gaining popularity and are now used by many people from different walks of life and have shown positive behaviour change to increase adults' physical activity levels through capturing daily living activities effortlessly which helps individuals to lead more active lifestyles.

The State of Kuwait, a small high-income country and member of the GCC, is experiencing intense epidemiological turbulence with a growing number of NCDs that account for more than two-thirds of total deaths [4]. Kuwait is a predominantly young nation where youth constitute more than 70% of its population, yet living with alarmingly high rates of NCDs [5,6]. This is due to the sedentary lifestyle lived by people, including adolescents, which is characterized by inadequate physical activity and high caloric diets [7]. Kuwaiti youth experience suboptimal rates of physical activity, poor eating habits, and increased time watching television or using computers in intensifying the toll of NCDs (non-communicable diseases) [8] leading to problems that affect public productivity. This study aims at uncovering key insights helpful when considering integrating these solutions into national public health policies and programs. To our knowledge, no research has explored the perceptions of youth from Kuwait about their perceptions of the motivators and barriers for using and adopting wearables.

Methods

Through semi-structured interviews, the study employed a qualitative and exploratory design to uncover rich context-specific findings. Before data collection, the study was reviewed and approved by the Ethics Review Committee at (institution – masked for peer review). The study was carried out in Kuwait University, KU is the largest governmental university in Kuwait established in 1966, and provides free academic education in various majors. The University does not require any additional fees from Kuwaiti students; admission aptitude tests are required and based on the total score, students are able to be admitted into a particular college.

Random selection of participants were used. Interviews were audio-recorded and transcribed verbatim in English language in Microsoft Word. The analysis of the transcripts followed a thematic analysis approach and utilized the Framework method. Initially, the analysis involved familiarization of the researchers, independently, with the interview transcripts searching for necessary observations and patterns in the data and coding them accordingly using Microsoft Excel. Iteratively, the researchers reviewed the coded concepts and grouped them into themes.

Results

Twenty participants agreed to participate. Participants who are currently using wearables (n=9), participants who never adopted or used wearables (n=9), and participants who have used self-tracking in the past (n=2). A variety of wearables were reported to have been used including the Apple Watch, Fitbit, Polar, Nike, and Samsung Health.

Motivations for Use

Eight participants mentioned that the primary goal of self-tracking is to lose some weight and burn calories (Q1 – refer to Table 1 for selected representative quotes). Three participants wanted to gain insights into their physical activity levels (Q2). Two participants increase the usual goal to a higher goal to achieve more (Q3).

Adoption Barriers

Three participants considered purchasing them is a waste of money (Q4). One participant was confident in leading an active lifestyle and therefore felt no need for using wearables (Q5). Another participant felt that using wearables was only for obese individuals (Q6). One participant reported that setting up the

wearable application is a hassle (Q7). One participant believed that wearables were just a 'gimmick' and did not believe in them (Q8). Because there are many wearables and brands available in the market, it was not easy for one participant to decide which one to purchase (Q9). Three participants lacked knowledge about their benefit and how to use them (Q10). Five participants felt uncomfortable with the device because of the battery-life (Q11). One passive participant reported that the data records on the device were inaccurate as the device calculates hand movements instead of just the steps (Q12).

Psychological Outcomes

Eight participants reported that using self-tracking wearables made them feel good (Q13). Seven participants reported that self-tracking did not affect their anxiety negatively (Q14). One participant believed that being able to view their physical activity levels via the wearables boosted their self-confidence (Q15). Another participant indicated that self-tracking helped with lowering their stress levels (Q16). On the other hand, one participant felt stressed if the goal was not accomplished (Q17). Two participants were a little depressed if they were not as active as they wanted to be (Q18).

Table 1- Representative quotes from participants. *

	Quotes
Q1	'My target is to burn calories as much as I can as my body needs'. (P1)
Q2	'I can see how much I am walking, am I moving a lot or not'. (P18)
Q3	'Increase the goal limit to achieve a higher goal to increase my fitness'. (P7)
Q4	'I would like to try it out, but I do not want to waste my money'. (P4)
Q5	'I don't think I need to have one because I know I am burning calories because I walk all the time'. (P5)
Q6	'I am not fat. I think these applications or programs for only fat people'. (P12)
Q7	'I need to install the application; I am just lazy from this step'. (P14)
Q8	'We feel like it is gimmick'. (P3)
Q9	'I was thinking of purchasing it, but I am still looking for a good brand'. (P18)
Q10	'I still do not know the features well. I did not read about it'. (P16)
Q11	'I hate it when it dies, I use it when it's charged, if it dies, I don't charge it immediately'. (P8)
Q12	'it calculates depending on the hand movement, not the body, so it is inaccurate, people use their hands when they talk and move it around, I do not do that. Some wear it on the thighs I think this is more accurate'. (P6)
Q13	'As long as I made progress or I burned calories, this mentally makes me relieved doesn't matter if I did much or not as long as there is an outcome'. (P1)
Q14	'I don't feel it is increasing the anxiety; it's the opposite; it is improving'. (P2)
Q15	'I feel confident because when I walked more, and I do feel I become a bit fitter'. (P9)
Q16	'I think my tracking gave me some improvement with my stress, like keep up with my goals, doing some fitness'. (P11)
Q17	'Sometimes, I feel stressed when I didn't achieve my goal'. (P7)
Q18	'If I feel bad if the day passes and I did not walk, it's not necessarily for weight loss, but I also want to walk'. (P17)

*Note: Q: Quote, P: Participant

Conclusions

The findings provide important insights to help health care policymakers in Kuwait, the region, and nations with similar characteristics when considering incorporating wearables into public health programs and initiatives. Further studies are needed to investigate the motivational and usability aspects of wearables and should focus on in-situ evaluations given the unique context and environment of the given country.

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