Prescribing Behavior and Reasonable Price for Mental Health DiGAs - Results of a Pilot Study

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Abstract. Background: Since the Digital Health Care Act came into force in 2020, mHealth services can be prescribed and reimbursed as DiGAs in Germany. The most reimbursable DiGAs can be found in the area of psychiatric diseases. Little is known about the prescribing behavior of medical and psychological psychotherapists and the price they considered reasonable. Objectives: To gather more detailed knowledge about the prescription behavior, appropriate diagnosis, reasonable price and importance of relevant characteristics. Methods: Online survey of 38 medical and psychological psychotherapists working in central Hesse. Results: Just under a third have prescribed DiGAs to date; suitable diagnoses include somatoform disorders, anxiety disorders and addictive disorders. Medical quality, user-friendliness and data protection are considered important. the reasonable price is below the current average market price. Conclusion: The DiGAs do not seem to be prescribed by psychotherapists on a broad scale yet, the suitable indications are in line with the market offer, although the prices seem to be too high from the prescribers' point of view.

Keywords. mHealth, Mobile Health, Telemedicine, Mental Disorders

1. Introduction

Digital technologies are part of our daily lives. In the last years, the use of mobile digital technologies has gained significance and now accounts for the majority of the use of digital technologies [1].

This increased use of mobile digital technologies is also impacting the healthcare sector. In 2019, Bitkom Research conducted a survey in Germany with 792 participants that showed that more than 60% of smartphone owners use health apps [2]. These include apps for exercises, apps for recording vital functions such as heart rate, apps with information referring to health topics or apps for stress reduction and many more. The investigation was repeated in 2020 [3] and among 909 participants the health app user rate increased to 75%. Due to the high expectations associated with these digital health applications, the increasing use of digital technologies poses new challenges for healthcare decision makers in evaluating these applications [4,5]. Digital health apps have the potential to improve disease monitoring and management, avoid

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hospitalizations, and detect deteriorating scores early. However, for many available health apps, there is little or no evidence of actual benefit to date [6,7]. There are also risks of digital health applications and possible side effects or failure to achieve the desired effect. Because digital health applications convey information, there is a risk of misinformation. Misdiagnoses or incorrect treatments are possible consequences. Further problems can arise from the incorrect use of digital health application [8].

One of the primary roles of the healthcare system is to create a framework that makes it easier for healthcare professionals and patients to find safe and effective apps that maximize health benefits and, when appropriate, influence payer decisions [9-12]. In Germany, this has been implemented by the Digital Supply Act in 2020, since which it is possible to prescribe and reimburse mHealth services in Germany [13,14]. These are called digital health applications (DiGA) and must meet specific criteria to be included in a regulatory registry. Currently, the largest proportion of apps eligible for prescription in the DiGA registry are mental health apps. This pilot study aims to generate initial evidence on prescribing behavior, suitability and price from the perspective of medical and psychological psychotherapists.

2. Methods

In this paper, 300 outpatient medical and psychological psychotherapists from the Central Hesse area were invited to participate in an online survey from 09/21/2022 to 10/9/2022. Of those invited, 38 participated in the survey and 33 completed it in full. The survey consisted of the following nine questions (translated from German):

- 1. Have you already prescribed a DiGA?
- 2. If yes, which DiGA have you already prescribed?
- 3. How many DiGA prescriptions have you made so far?
- 4. If no, why not? (max. 3 of 7 response opportunities)
- 5. How suitable do you consider the use of DiGA for the following clinical pictures:
 - a. Anxiety disorders
 - b. Affective disorders
 - c. Psychotic disorders
 - d. Eating disorders
 - e. Obsessive-compulsive disorders
 - f. Addictive disorders
 - g. Somatoform disorders
 - h. Stress disorders
 - i. Personality disorders
 - j. Organically caused mental disorders
 - k. Mental disorders in children and adolescents
 - 1. Mental disorders in old age
- 6. How important do you think the following criteria are in a DiGA?
 - a. Quality of medical content
 - b. User-friendliness
 - c. Possibility of individualization
 - d. Data protection and data security
 - e. Interoperability with the existing practice management system
 - f. A reasonable price

- 7. What do you think is a reasonable average price for a DiGA, within a 90-day application period?
- 8. How do you see the importance of DiGA in the context of mental health care in the German health care system?
- 9. What barriers do you see in the mental health care field to the establishment of DiGA?

The questionnaire was provided using the survey tool 'easyfeedback Fragebogen' (by easyfeedback GmbH in Germany).

3. Results

At 13 of 38 respondents, one-third had already prescribed a DiGA in the indication area. The three most common DiGAs prescribed by the 13 previous prescribers were: Somnio (sleep disorders, n=9), Deprexis (depression, n=5) and Selfapys for depression (depression, n=5). Most had previously prescribed 1-9 apps (n=9) or 10-19 (n=2) and 20-50 (n=2). The three main reasons why 24 of the respondents had not yet prescribed DiGA were: "I have not yet dealt with DiGA" (54%), "I have doubts about its effectiveness" (29%) and "I have privacy concerns" (25%). The respondents named anxiety disorders (n=18), affective disorders (n=15), addictive disorders (n=13), and somatoform disorders (n=13) as diseases with very high or high suitability for the use of DiGAs. For not at all or partly suitable mental disorders in adolescents (n=19), mental disorders in old age (n=16) and psychotic disorders (n=19). The quality of the medical content (97%), user-friendliness (94%), data protection (91%) and the possibility of individualization (88%) were named as important criteria, see Figure 1.



Figure 1: Question: How important do you think the following criteria are in a DiGA? (n=34)

Interoperability, on the other hand, was rated as important by only 36%. An average price of 236 EUR (Range: 25-903 EUR) was mentioned as reasonable by the respondents for a 90-day application period. Opinions differ widely here, as the median was 152 EUR, see Figure 2.



Reasonable price

Figure 2: Box Plot of reasonable price for 90 days (n=24).

A large majority regard the future relevance of DiGAs as only partly used (50%) and at a low level (41%). The results are illustrated in Figure 2.



Figure 3: Question: How do you see the role of DiGA in the care of mental illnesses in the German health care system within the next 5 years? (n=34)

Barriers to a broad application in mental health are lack of usability, lack of interoperability with practice software, poor efficacy studies, exclusion of patients without appropriate smartphone, lack of testing options for practitioners and poor patient compliance.

4. Discussion

The used questionnaire has not been tested for objectivity, reliability, and validity. This was because the study had a pilot character. Nevertheless, the results of this pilot study can be used to identify initial trends and derive further investigations.

The results show that only a small proportion of psychotherapists have prescribed DiGA and that the prescriptions had mostly only an initial character. In general, DiGAs are still rarely used in the mental health field relative to what is available. Prescribers have the greatest concerns in the areas of 'effectiveness' and 'privacy and data security'. In addition, prescribers regard user-friendliness and individualization as important. The average price indicated is 236 EUR, which is significantly lower than the actual average DiGA price in this category per quarter of 432 EUR. This means that the respondents' assessment of the high price level is in line with that of the payers. Prescribers see DiGAs as a complement in therapy, not a substitute as they cannot replace professional contact. The goal must therefore be to establish a better understanding of DiGA as an additional element for improvement and inclusion in therapy. In addition, topics such as interoperability, which are considered less important by respondents in our study, offer high potential through data integration in eletronic patient records [15]. This process could be driven by, for example, the BfArM (German Federal Institute for Drugs and Medical Devices).

Regarding future relevance of DiGAs, the physicians and psychologists working in psychotherapy are rather skeptical and do not see a significant increase in relevance.

Based on this pilots' results, a case number estimation for a larger study could be derived. Re-test reliability and validation of the questionnaire should be investigated. A larger collective of prescribers from the whole country should be recruited. Another aspect could be how manufacturers create more acceptance among prescribers, for example by involving interest groups in the development process at an early stage. In addition, such studies are also interesting for other DiGA areas, as there are few prescriptions in these areas as well [16]. Prospectively, a harmonized reimbursement system across Europe could significantly increase prescriptions and thus reduce the costs for each patient [17].

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