



A Review on Mobile Health and Nutrition Applications - its Accountability and Features in India

Emi Grace Mary Gowshika Rajendran 

Ph.D. Research Scholar, Department of Home Science, Women's Christian College, Chennai, India
Corresponding Author: emigracerajendran@gmail.com

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Abstract

Background: Improper diet patterns can lead to many nutrient deficiencies and diseases like: Gum death, Night Blindness, Osteomalacia, Rickets and others. Likewise, undernutrition can cause Osteoporosis, Scurvy, decrease in Intelligence Quotient (IQ), Pelegra, Anemia and others. Similarly Obesity, Ischemic Heart Diseases and Type II Diabetes Mellitus are the results of overnutrition. There always exists an irregularity in the body due to faulty dietary habits like consumption of unhygienic food, fast foods, improper meal timings and other unhealthy diets. Following healthier diet and physical activities can make a healthy lifestyle modification for an individual. Due to the busy schedules and inadequate time, many people feel restricted to visit a Nutritionist and Doctor to manage their health. It was for this reason many people started to use mobile applications which could be mostly utilized for calculating and monitoring nutrients and health status of people anywhere, anytime. This study aims to assess the accountability through certain app indications and its features to make some recommendations in the further usage and features for the applications on health and nutrition. **Methodology:** A review was done by searching on Google Play Store with filters regarding Nutrition Apps with 4+ ratings, started recently between 2015-2021 and its current activity status like updating of the app, among which the top 10 were selected for this study. **Results:** This review concluded that health and nutrition apps are the need of the hour due to busy work-life schedules and also in utilizing the developing technology in a better way.

Keywords: Nutrition Apps, Nutrition Technology, mHealth Apps, eNutrition Apps.

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Introduction

The major aim in conducting this review is to spread awareness regarding various health and nutrition monitoring and check-ups available in the form of mobile applications even in remote areas in India with just a single click away (**Boushey et al, 2017**). The main reasons for the rise in fame of mHealth and mNutrition applications is due to the busy work-life schedules of individuals, those in very remote places and also for those having poor knowledge on both health and nutrition. These people need access to safe and reliable sources to have a regular check on their health and nutrition and a more easier way to keep a view on their lifestyle through the use of smart phones which has already been attributed as part of every individual's life. The frequent updating of the apps with recent recommendations would ensure reliability and an innovation in display of information would also help the apps to have a longer life in the market. One of the major challenges which could be faced by people are the usage and features of a particular application as many might not be aware of the functions of a health and nutrition application.

This review includes the functions and accountability of top 10 health and nutrition applications in India through their workflow based on coaches, diet plans and diary, calorie counter, weight loss and other health related information and facilities. A preliminary knowledge of Human Nutrition is always beneficial as it helps to make informed choices in what information is been presented to us through these applications. Human nutrition deals with the nutrients and its association with health, diet and the fitness aspects to maintain a sound lifestyle free of health complications. A basic knowledge on certain major micronutrients and its deficiencies could help in the prevention of nutrient deficiencies like Anemia due to lack of Iron, Night Blindness due to lack of Vitamin A, Rickets due to lack of Vitamin D, Scurvy due to lack of Vitamin C and many others in children as well as in adults (**WHO, 2000**).

In the days without Smartphones, usually people were maintaining a manual written record of diet and health conditions including the portion sizes of food consumed, storage of inventory at home, difficulty in getting access to printed checklists, inadequate diet knowledge and other challenges which made the tracking and maintaining of diet and health laborious (**Jospe et al., 2015**). Many previously conducted studies on health and nutrition apps revealed that clients were willing to pay for effective nutrition assessment systems like applications and digital health evaluations which enables access to nutrient intake and calorie counter along with giving proper feedback to them (**Carter., et al.,2013**).

Objectives

This review was aimed to be conducted keeping in view the recent trends of mobile health and nutrition applications. The following objectives have been framed to provide a source of awareness and knowledge to the public on the top 10 rated Google Play Apps in India for Health and Wellness:

- 1.Accountability of the app based on certain visible factors on the Google Play Store.
- 2.To make recommendations for further inclusions if required in these apps.

Methodology

The search was done in Google Play Store on Android Phone related to the latest Health and Nutrition Apps which was developed in India. Filters were used to shortlist the apps based on Ratings 4+, App Started between 2015-2021, Apps developed in India which was identified by viewing the Developer Information and the Reviews from Indian names on Google Play Store for each selected app. The app must also be including dietary plans and tips along with health suggestions. On the whole, top 10 apps displayed in the order using all these filters and criteria were included in this review.

Results

1.Accountability of each App

App Ratings

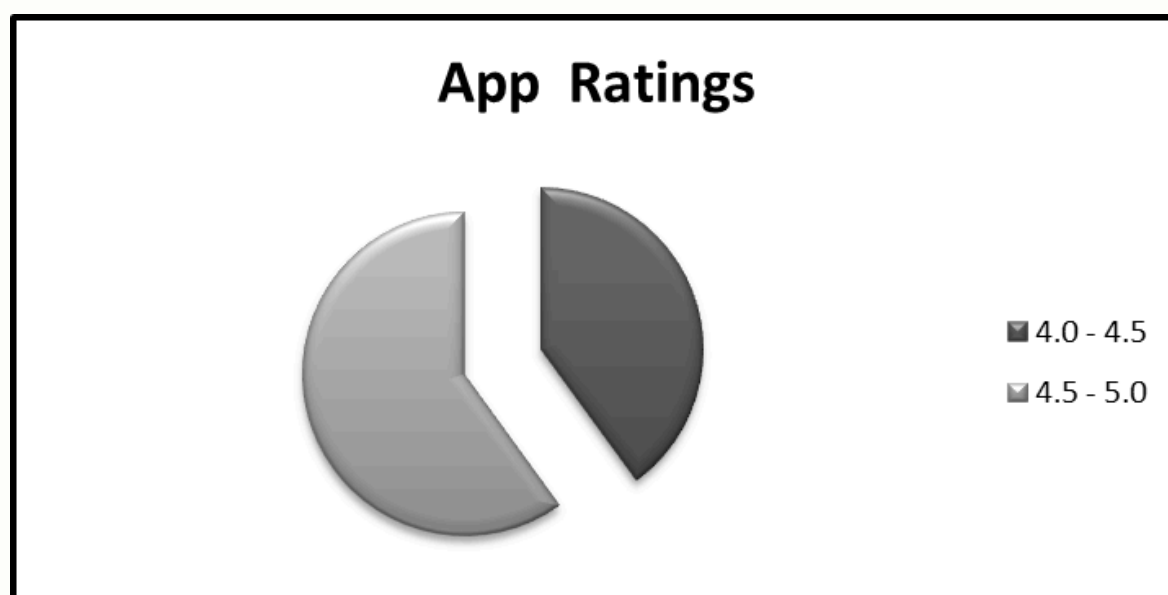


Figure 1. App Ratings for each app on Google Play Store.

All the 10 apps were categorized into 4.0 - 4.5 ratings and 4.5 - 5.0 ratings which was observed in Google Play Store as shown in **Fig 1**. The highest rated app was Keto India and Smart Diet Planner with 4.8 ratings each. The lowest rated app was FITTR and LoriHealth with 4.3 ratings each as noted on 15th July,2021.

Number of Client Reviews

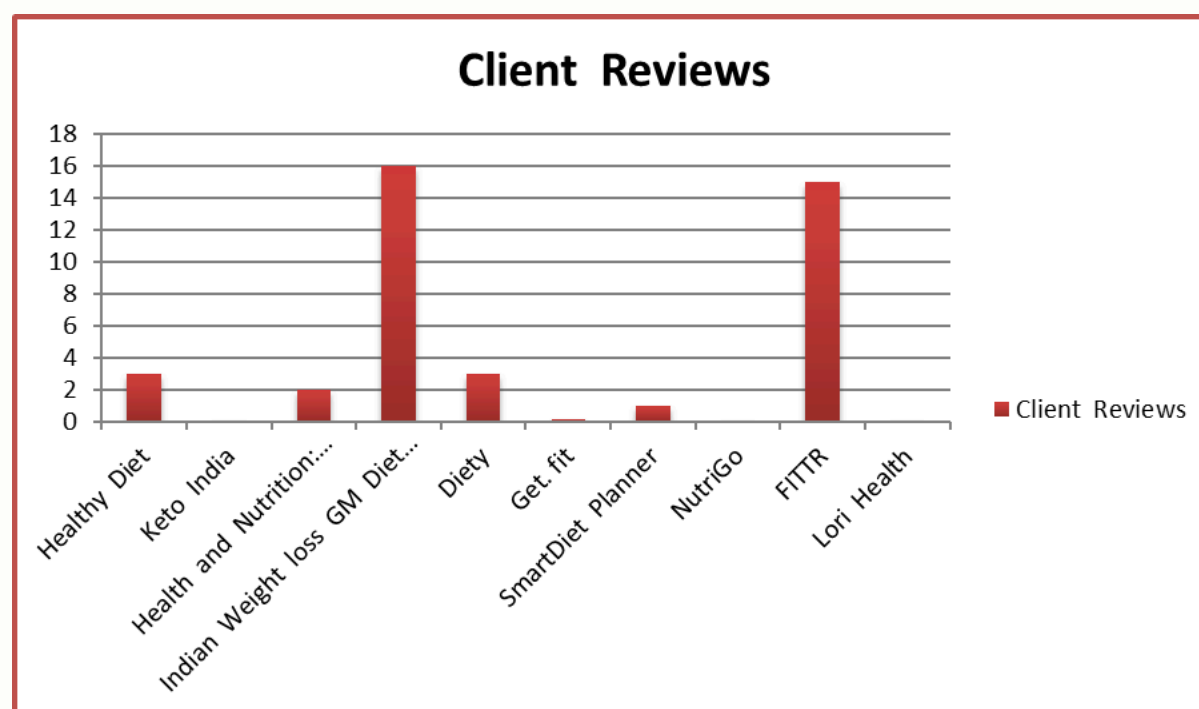


Figure 2. Number of Client Reviews for each app on Google Play Store.

The number of client reviews in thousands obtained in each app is depicted in **Fig 2**, with the highest from Indian Weight loss GM Diet & BMI check with 16,000 client reviews and the lowest from Keto India with 25 reviews as noted on 15th July, 2021.

Last Update of the App

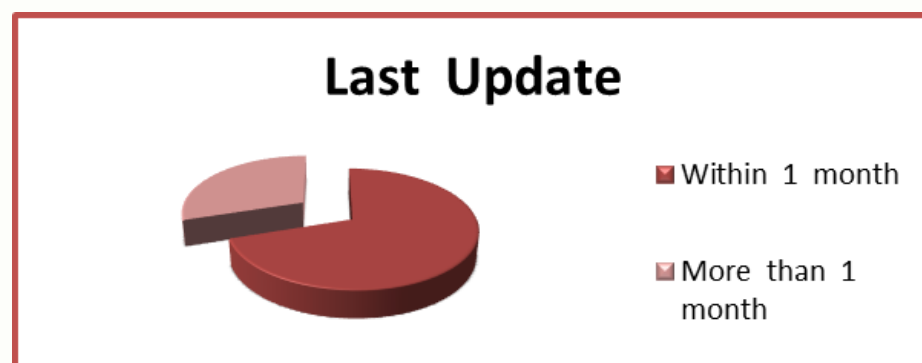


Figure 3. Last Update of the apps on Google Play Store by Developer.

The last update date gives an insight on the engaging activity of the client, developer and the application. It helps in knowing if the app is still maintaining its trend and making constant changes as per the client's review. This is categorized as updated within one month and updated more than a month as shown in Fig 3. The most recently updated app was LoriHealth on 14th July, 2021 and the most old updated app was Health and Nutrition: Nutrition Food Guide on 2nd February,2021 as noticed on 15th July, 2021.

Release Year of the App

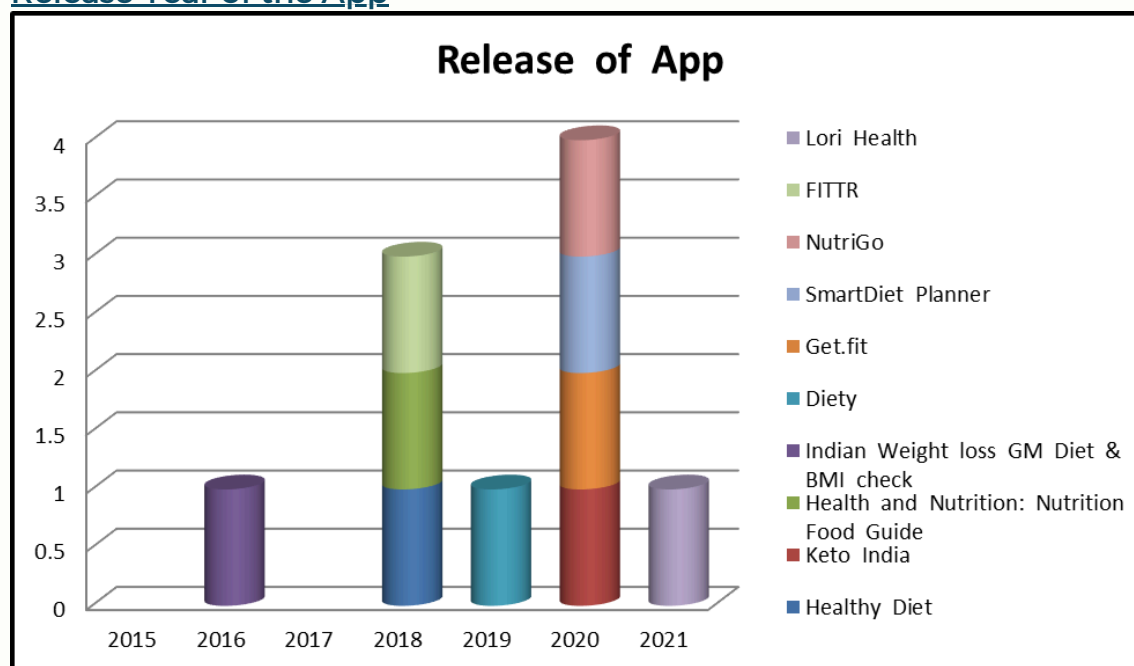


Figure 4. Year of Release of each app on Google Play Store.

The year of release of each app on Google Play Store has been depicted in Fig 4. The most recently released app was LoriHealth on 3rd February, 2021 and the oldest app was Indian Weight loss GM Diet & BMI check on 4th April,2016 as checked on 15th July, 2021.

Place of Origin

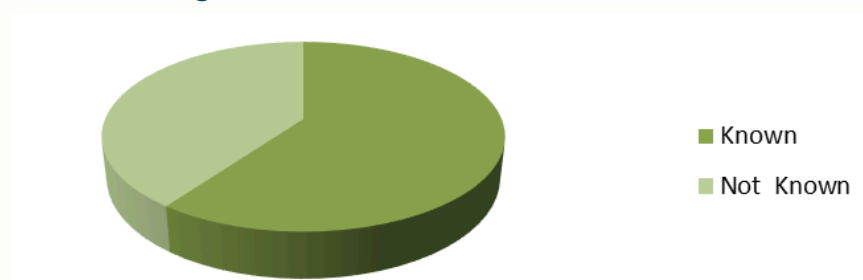


Figure 5. Place of Origin of App as mentioned on Google Play Store.

The apps were selected based on those including Indian diet plans and origin of client reviews and their names. Certain place names were not directly mentioned but was found to be from Indian origin and is represented in **Fig 5**.

Recommendations

From the collective review discussed above, few recommendations to be included in the apps for future updates or construction of new mobile health and nutrition applications are:

- A direct access to shopping ingredients based on the diet plans given by experts could lead to more convenient follow up of the plans.
- Online medical consultations including visit for home tests could be beneficial.
- In-home fitness trainer with dietician visit would also make this process more motivating and would be encouraging for them to follow the plans and recommendations.
- Some group sessions in public places with a day out for the clients with rewards and activities would be more encouraging and can be used as an advertising tool for the app as well.

Conclusion

From the review of the health and nutrition apps on Google Play Store which was released between 2015 – 2021, having 4.0 + ratings, these applications are the need of the hour and in current trends due to many difficulties faced by individuals to visit healthcare and fitness centers on daily basis. These smartphones could be used for health conscious ways to bring alerts, follow balanced meals and timings through online monitoring by experts and slowly making a good lifestyle modification. This review has deciphered the vital role and functions of each of these Indian apps in promoting health and nutrition. The proper utilization and follow-ups would be the best advantageous aspect if done meticulously.

Credit Authorship Contribution Statement

The author contributed to Conceptualization, Methodology, Formal Analysis, Investigation, Writing and Visualization.

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Conflict of Interest

The author declares that there was no conflict of interest from preparation to publication of this manuscript.

Ethics Approval

This study does not require any ethical approval.

Participant Consent

This study did not require any human participation for consent.

References

Boushey, C.J., et al. (2017). New mobile methods for dietary assessment: Review of image-assisted and image-based dietary assessment methods. The proceedings of the Nutrition Society, 76(3), 283-294. DOI: <https://doi.org/10.1017/S0029665116002913>

Carter, M.C., et al. (2013). Adherence to a smartphone application for weight loss compared to website and paper diary: Pilot randomized controlled trial. Journal of Medical Internet Research, 15(4), 232. DOI: <https://doi.org/10.2196/jmir.2283>

Diety- Diet Plan, Calorie Counter, Weight Loss. (15th July, 2021). Retrieved from URL: <https://play.google.com/store/apps/details?id=com.jeet.diety>

FITTR: Fat-loss plan, workout & personal training. (15th July, 2021). Retrieved from URL: <https://play.google.com/store/apps/details?id=com.squats.fittr>

Jospe, M.R., et al. (2015). Diet app use by sports dietitians: a survey in five countries. JMIR mHealth and Health, 3(1), e7. DOI: <https://doi.org/10.2196/mhealth.3345>

Keto India: Indian Keto Diet Plan, Recipes, Tips. (15th July, 2021). Retrieved from URL: <https://play.google.com/store/apps/details?id=fit.ketoindia.ketoindia>

Lori Health-Nutrition, Meal plan, Blood Test. (15th July, 2021). Retrieved from URL: <https://play.google.com/store/apps/details?id=com.ripsey>

World Health Organization. (2000). Nutrition for Health and Development: a global agenda for combating malnutrition.

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