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Identification of Educational Media for Primary Care in Type 2 Diabetes Mellitus A Patients: A Scoping Review

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Abstract

Background: Type 2 diabetes mellitus, one of the most common metabolic disorders, is caused by two main factors: suboptimal insulin production by pancreatic β-cells and the inability of insulin-sensitive tissues to respond properly to insulin. Primary care, a shorter term, refers to a more specific concept of services such as 'family doctor-type' care provided to individuals. **Objective:** This article explores the identification of educational media for primary care in patients with type 2 diabetes mellitus. **Methods:** This scoping review design used the Arksey and O'Melley model in analysing the scoping review. Literature sources used were through online databases, namely Pubmed and Scopus from 2014 to 2023. Identification and analysis using Preferred Reporting Items for Systematic Reviews and Meta Analysis for Scooping Review (PRISMA-SR). **Result**: From the results of 14 articles analyzed, this article has summarised the identification of educational media for primary care in patients with type 2 diabetes mellitus. **Conslusion:** The success of primary care in patients with type 2 diabetes mellitus is influenced by various factors, including beliefs, education, knowledge, educational media, and psychological conditions of patients. Educational media plays an important role in helping patients understand care-related information and can improve their knowledge, attitudes, health behaviours, and quality of life.

Keywords: *Diabetes mellitus type 2, educational media, primary care*

BACKGROUND

Diabetes mellitus (DM) is a degenerative disease that can have serious repercussions if not managed properly. It is a general term used to describe a group of heterogeneous metabolic disorders characterised by chronically high levels of sugar (hyperglycaemia). The main causes of diabetes involve impairment in insulin secretion, impaired response to insulin, or often both (Petersmann *et al*, 2019). As many as 537 million adults aged between 20 and 79 years worldwide are estimated to have diabetes, accounting for 10.5% of the total adult population in that age range. Projections show that by 2030, the number of people with diabetes will reach 643 million, and is expected to increase to 783 million by 2045. Therefore, although the world's population is expected to grow by 20% during this period, the number of people suffering from diabetes is expected to increase by 46%. (IDWF, 2023).

Primary Care and Primary Health Care are often used as almost synonymous terms. Primary care, a shorter term, refers to a more specific concept of services such as "family doctor-type" care provided to individuals. Primary health care, on the other hand, is a broader term, derived from the core principles articulated by the World Health Organisation, and encompasses approaches to health policy as well as service delivery. It involves not only Primary Care services for individuals, but also "public health-type" functions at the population level (Muldoon *et al*., 2014).

METHODS

Protocol and registrations

We used a scoping review, guided by PRISMA questions for scoping review reporting, to collect and summarise existing literature on the application of Identifying Educational Media for Primary Care in Type 2 Diabetes mellitus Patients. The method used to conduct the review followed the five-stage framework described by Arksey and Malley.

Eligibility criteria

Inclusion criteria

1. Articles that focus on educational media on diabtes mellitus patients
2. Article on primary care
3. English article

Exclusion criteria

1. Article review
2. Published before 2014
3. Qualitative study design

Research studies

Searches are conducted both electronically and manually. The search strategy consisted of three steps. Firstly, an initial search was conducted using the following electronic databases: scopus and pubmed. The search used the words diabetes mellitus, educations AND media OR education, primary AND care OR community care OR public health care. The article search filtered the last 10 years, research studies, titles and abstracts, English articles.

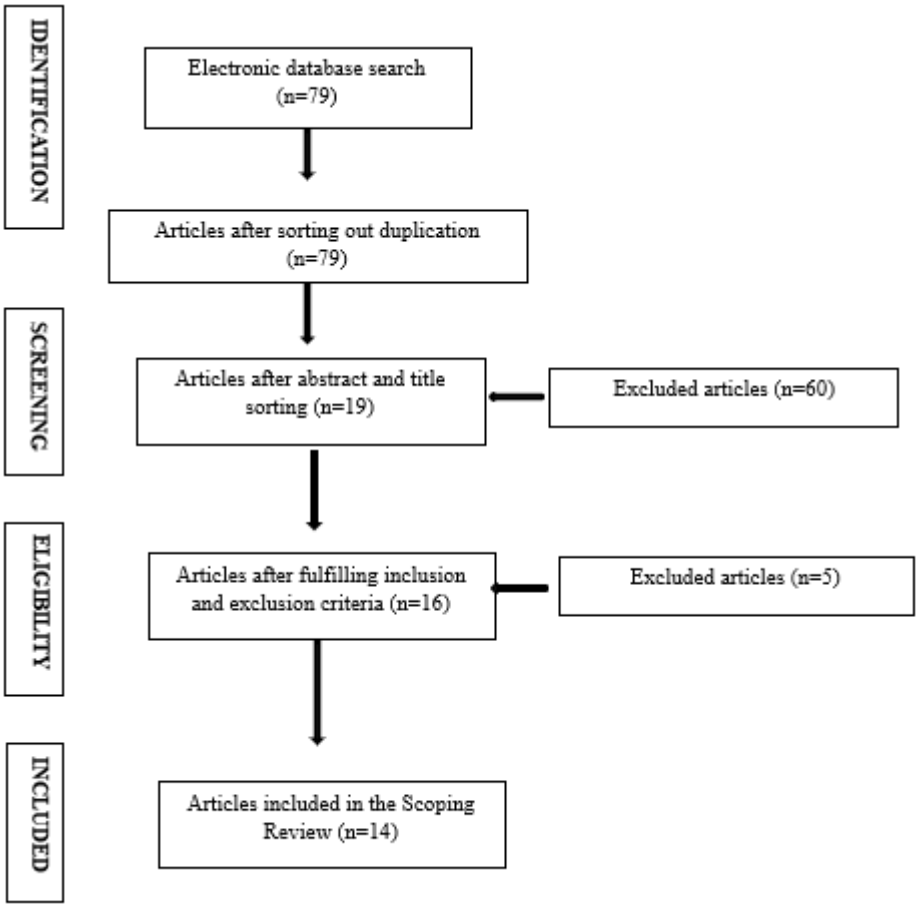
Study selection

Selection and inclusion of papers for this review involved two stages: abstract and title screening; full text reading to select articles eligible for final inclusion.

Data extraction, analysis and synthesis

Once the articles are eligible for final inclusion, they will be analysed using the elicit application. The results of the article analysis in elicit will be exported to Microsoft Exel to collect relevance data for further analysis. One place is used to collect information about

characteristics including research, such as: author's name, research country, research design, research objectives and sample.



Intervention characteristics

The characteristic educational interventions are summarised in Table 2. The educational interventions were different for each intervention related to diabetic patients, an educational video on foot care for diabetic patients presented in traditional language, a foot-related exercise programme designed for diabetic peripheral neuropathy patients, consisting of 6 face-to-face sessions lasting 30 minutes, a structured group education programme implemented by primary care nurses for patients with type 2 diabetes mellitus, Diabetes self-management education using electronic registry, involving the use of Community Health Workers (CHWs), implementation of PACK guidelines with group approach education, I-TEAM DM intervention, SMS education or SMS-Ed, Individual teaching, as well as strategies, materials and tools to manage medication and schedules, Use of telemedicine, Education and Telemedicine (IDEAtel), Distance education or CME, Help- Diabetes programme, Healthy tree programme, Diabetes self-management (DSME), OPTIMUM telemonitoring.

RESULT AND DISCUSSION

1. Study Characteristics

This review process was carried out using *mendeley* and elicit to explore the identification of educational media for primary care in type 2 diabetes mellitus patients with a total of 79 articles that have been obtained as literature sources from *pubmed* (66 articles), *scopus* (13 articles). After filtering duplication the number of articles is 79. Sorting abstracts and titles caused 60 articles to be excluded, leaving 19 articles. Filtering based on inclusion and exclusion criteria left 14 articles. 14 articles were considered after reading the full text. All 14 articles were included in the final analysis.

2. Summary of findings in the literature

Articles have been analysed about identifying educational media for primary care in patients with type 2 diabetes mellitus. These articles look at educational media related to primary care in patients with type 2 diabetes mellitus. From the results of the *review* of 14 articles, the results of the identification of primary care media are considered effective in the care of patients with type 2 diabetes mellitus

The success of primary care in type 2 diabetes mellitus patients can be influenced by several factors including beliefs, education, knowledge, types of information / educational media that have been used, psychological stress. The media that has been used will play an important role in helping patients understand and capture information. Providing education related to primary care media is very beneficial for patients, it can also be used as a comprehensive promotion and education tool to improve knowledge, attitudes and also health behaviour and quality of life.

The difference between a *scoping review* and a *systematic review* is that *scoping reviews* have great utility for synthesising research evidence and are often used to categorise or group existing literature in a particular field. This type will pay attention to the nature, features and content of the literature that has been retrieved. A form of *scoping review* is an initial assessment of the potential size and scope of the research literature. It aims to identify the nature and extent of research evidence (usually including ongoing research). Meanwhile, the first *systematic review* begins with making a *systematic review* research protocol. There is a quantitative *systematic review* method used to synthesise research results with a quantitative approach, such as *Randomised Control Trials* (RCT), *Cohort Study, Case-Control Study,* or prevalence study. The statistical approach in synthesising quantitative research results is called meta-analysis. Meanwhile, the qualitative approach in *systematic review* is used to synthesise (summarise) the results of descriptive qualitative research. This method can also be called meta-synthesis, which is a technique of integrating data to obtain new theories and concepts or a deeper and more comprehensive level of understanding.

CONCLUSION

The success of primary care in patients with type 2 diabetes mellitus is influenced by various factors, including beliefs, education, knowledge, educational media, and psychological conditions of patients. Educational media plays an important role in helping patients understand care-related information and can improve their knowledge, attitudes, health behaviours and quality of life. Scoping reviews and systematic reviews have fundamental differences. Scoping reviews serve to synthesise research evidence and categorise existing literature in a particular field, with a focus on identifying the nature and level of research evidence. In contrast, systematic reviews follow a more rigorous protocol, using quantitative

methods such as meta-analysis to synthesise quantitative research results or meta-synthesis for qualitative research results, to achieve a more in-depth and thorough understanding.

REFERENCES

Abrar, E. A., Yusuf, S., Sjattar, E. L., & Rachmawaty, R. (2020). Development and evaluation educational videos of diabetic foot care in traditional languages to enhance knowledge of patients diagnosed with diabetes and risk for diabetic foot ulcers. *Primary Care Diabetes*, *14*(2), 104–110. https://doi.org/10.1016/j.pcd.2019.06.005

Allerton, J., & Mash, R. (2020). The impact of intensified clinical care on glycaemic control in patients with type 2 diabetes at Khayelitsha Community Health Centre, South Africa: Quasi-experimental study. *Primary Care Diabetes*, *14*(2), 97–103. https://doi.org/10.1016/j.pcd.2019.08.006

Angkurawaranon, C., Papachristou Nadal, I., Mallinson, P. A. C., Pinyopornpanish, K., Quansri, O., Rerkasem, K., Srivanichakorn, S., Techakehakij, W., Wichit, N., Pateekhum, C., Hashmi, A. H., Hanson, K., Khunti, K., & Kinra, S. (2020). Scalable solution for delivery of diabetes self-management education in Thailand (DSME-T): A cluster randomised trial study protocol. *BMJ Open*, *10*(10), 1–8. https://doi.org/10.1136/bmjopen-2020-036963

Casten, R., Rovner, B., Chang, A. M., Hollander, J. E., Kelley, M., Leiby, B., Nightingale, G., Pizzi, L., White, N., & Rising, K. (2020). A randomized clinical trial of a collaborative home-based diabetes intervention to reduce emergency department visits and hospitalizations in black individuals with diabetes. *Contemporary Clinical Trials*, *95*(June), 106069. https://doi.org/10.1016/j.cct.2020.106069

Cook, J. A., Ph, D., Jonikas, J. A., Steigman, P. J., Glover, C. M., & Ph, D. (2021). *Registry-Managed Care Coordination and Education for Patients With Co-occurring Diabetes and Serious Mental Illness*. *August*. https://doi.org/10.1176/appi.ps.202000096

De la Fuente Coria, M. C., Cruz-Cobo, C., & Santi-Cano, M. J. (2020). Effectiveness of a primary care nurse delivered educational intervention for patients with type 2 diabetes mellitus in promoting metabolic control and compliance with long-term therapeutic targets: Randomised controlled trial. *International Journal of Nursing Studies*, *101*, 103417. https://doi.org/10.1016/j.ijnurstu.2019.103417

Diehl, L. A., Souza, R. M., Gordan, P. A., Esteves, R. Z., & Coelho, I. C. M. (2017). InsuOnline, an electronic game for medical education on insulin therapy: A randomized controlled trial with primary care physicians. *Journal of Medical Internet Research*, *19*(3). https://doi.org/10.2196/jmir.6944

Galicia-garcia, U., Benito-vicente, A., Jebari, S., & Larrea-sebal, A. (2020). Costus ignus: Insulin plant and it's preparations as remedial approach for diabetes mellitus. *International Journal of Molecular Sciences*, 1–34.

Grillo, M. de F. F., Neumann, C. R., Scain, S. F., Rozeno, R. F., Beloli, L., Perinetto, T., Gross, J. L., & Leitão, C. B. (2016). Diabetes education in primary care: A randomized clinical trial. *Cadernos de Saude Publica*, *32*(5), 1–10. https://doi.org/10.1590/0102-311X00097115

IDWF. (2023). *Practical Guidelines 7 Guidelines Development and methodology IWGDF Guidelines on the prevention and management of diabetes-related foot disease IWGDF Guidelines*. www.iwgdfguidelines.org

Islam, N., Gepts, T., Lief, I., Gore, R., Levy, N., Tanner, M., Fang, Y., Sherman, S. E., & Schwartz, M. D. (2018). Protocol for the CHORD project (community health outreach to reduce diabetes): A cluster-randomized community health worker trial to prevent diabetes. *BMC Public Health*, *18*(1), 1–11. https://doi.org/10.1186/s12889-018-5419-4

Izquierdo, R. E., Wang, D., Huang, D., Palmas, W., & Weinstock, R. S. (2015). Case Management with a Diabetes Team Using Home Telemedicine: Acceptance of Treatment Recommendations by Primary Care Providers in IDEATel. *Telemedicine and E-Health*, *21*(12), 980–986. https://doi.org/10.1089/tmj.2014.0236

Li, J., Parrott, S., Sweeting, M., Farmer, A., Ross, J., Dack, C., Pal, K., Yardley, L., Barnard, M., Hudda, M., Alkhaldi, G., & Murray, E. (2018). Cost-effectiveness of facilitated access to a self-management website, compared to usual care, for patients with type 2 diabetes (help-diabetes): Randomized controlled trial. *Journal of Medical Internet Research*, *20*(6), 1–15. https://doi.org/10.2196/jmir.9256

Moreira, A. M., Marobin, R., Rados, D. V., de Farias, C. B., Coelli, S., Bernardi, B. L., Faller, L. de A., dos Santos, L. F., Matzenbacher, A. M., Katz, N., Harzheim, E., Silveiro, S. P., & Telessaude, R. S. (2017). Effects of nurse telesupport on transition between specialized and primary care in diabetic patients: Study protocol for a randomized controlled trial. *Trials*, *18*(1), 1–6. https://doi.org/10.1186/s13063-017-1954-z

Muldoon, L. K., Hogg, W. E., & Levitt, M. (2014). Primary Care (PC) and Primary DEFINITIONS OF PRIMARY. *Canadian Journal of Public Health*, *97*(5), 409–411.

Parra, D. I., Guevara, S. L. R., & Rojas, L. Z. (2021). "Teaching: Individual" to improve adherence in hypertension and type 2 diabetes. *British Journal of Community Nursing*, *26*(2), 84–91. https://doi.org/10.12968/bjcn.2021.26.2.84

Petersmann, A., Müller-Wieland, D., Müller, U. A., Landgraf, R., Nauck, M., Freckmann, G., Heinemann, L., & Schleicher, E. (2019). Clinical Practice Guidelines: Definition, Classification and Diagnosis of Diabetes Mellitus. *Experimental and Clinical Endocrinology and Diabetes*, *127*(1), S1–S7.

Silva, E. Q., Suda, E. Y., Santos, D. P., Veríssimo, J. L., Ferreira, J. S. S. P., Cruvinel Júnior, R. H., Monteiro, R. L., Sartor, C. D., & Sacco, I. C. N. (2020). Effect of an educational booklet for prevention and treatment of foot musculoskeletal dysfunctions in people with diabetic neuropathy: The FOotCAre (FOCA) trial II, a study protocol of a randomized controlled trial. *Trials*, *21*(1), 1–13. https://doi.org/10.1186/s13063-020-4115-8

Suhaimi, A. F., Ibrahim, N., Tan, K. A., Silim, U. A., Moore, G., Ryan, B., & Castle, D. J. (2020). Effectiveness of a culturally adapted biopsychosocial intervention (POHON SIHAT) in improving self-efficacy in patients with diabetes attending primary healthcare clinics in Putrajaya, Malaysia: Study protocol of a randomised controlled trial. *BMJ Open*, *10*(2). https://doi.org/10.1136/bmjopen-2019-033920

Westphaln, K. K., Regoeczi, W., Masotya, M., Vazquez-Westphaln, B., Lounsbury, K., McDavid, L., Lee, H. N., Johnson, J., & Ronis, S. D. (2021). From Arksey and O'Malley and Beyond: Customizations to enhance a team-based, mixed approach to scoping review methodology. *MethodsX*, *8*, 101375. https://doi.org/10.1016/j.mex.2021.101375