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Health-related Programme and Activities of Public Libraries: A proposed framework

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Abstract

While the way we consume information in our society is evolving, libraries are also dynamic and ever-changing. Libraries still matter, whether because of their access to a vast collection of books, the expertise of their librarians, or simply because they're a fantastic location. Public libraries can reach out to their users through these activities, creating awareness and interest in healthy lifestyles, providing access to high-quality health information, and eventually improving citizen health literacy. A framework is proposed by synthesizing prominent pieces of literature to guide through the rest of the study in providing a reference for the library for establishing health-related activities or programmes.

Keywords: Online learning; digital resources; Malaysian students; Higher education

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1.0 Introduction

According to the changes in the development and distribution of information from the manual era to the present, the majority of people directly involved in this arena have responded to a paradigm shift that is, of course, produced for the convenience of consumers. The diversity of technology increases the number of challenges for any information agencies that view the prospects of acquiring more variety in their services. Responding to community recommendations (Cervone, F. 2008), government vision (Fatoki, O. C. 2005), and consumer categories (Adibmanesh, M., Khasseh, A. A., & Adibmanesh, M. 2019), libraries are obligated to revamp their approach in providing structured programs or services in order for it to be visible, thus attracting more users, as well as stakeholders while also attending to the library social placement in order to optimize the services relevant community development (Hart, R. A. 2013) as well as fulfilling corporate social responsibility (Chatterji, A. K., et al. 2009). The library's resources and services foster learning, encourage literacy and education, and aid in forming new ideas and views that are essential to a creative and inventive society. For the past two years, the world has been plagued by a pandemic that continues to damage people's health. With this fact in mind, it's safe to assume that the rest of the world has understood how difficult it is to spread health-related awareness. It has also brought us to a position where less authentic information is disseminated, and various types of fraud will victimize all irresponsible users of technology. Various ad hoc recommendations and activities

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have been made in response to this circumstance in order to address the problem of communication misunderstandings. As a result, it is the responsibility of the relevant government departments, news, and media plus the community-influenced persons such as politicians and other influential people to guarantee that the information published is accurate and comes from reliable sources. This duty also bears the library's significance as a communication bridge.

1.1 Current State of Issues in Library Programme Development

Malaysia is not immune to the current global financial crisis brought on by the epidemic blown in for the past 2 years and other social and political challenges that have emerged. To cite one scenario where the community must keep in the loop for absorbing the updates of health information every day, the COVID-19 pandemic as well as other types of public illness and disease fall under everyone's duty. Unfortunately, many Malaysians still refuse to take responsibility for their health issues. The reason behind it varies from lack of informational effort (Khan, M. S., et al. 2018), credibility issues (Shahibi, S. et al., 2013) no available support technically and expertise (Dai, H., Zhang, et al. 2020). Various information and content are being developed to aid in disseminating knowledge to educate every society affected. Malaysians still have a very low level of health literacy. Health literacy is a person's ability to receive, process, and comprehend fundamental health information and services to make informed health decisions (Institute of Medicine, 2014).

As per the Ministry of Health's 10th Malaysia Plan, the country's health promotion staff is still insufficient. According to the literature, public libraries in many regions of the globe have played an important role in fostering health literacy initiatives. Several public libraries in Malaysia made modest efforts to establish health-related programmes. However, the initiatives were often relatively restricted and superficial. The community expects health literacy initiatives that are more thorough and engaging. Health-related initiatives are events and programmes created by libraries to reach out to their user populations in order to enhance awareness and interest in a healthy lifestyle, encourage access to high-quality health information, and eventually improve citizens' health literacy (Luo, 2018). To remain relevant, public libraries need to be responsive to this situational need and develop programmes that will help improve the health literacy level of the community. The library must verify that the amount of staff, cost, available space, and other pertinent factors are considered while creating a task, just like with any other events and programmes. With specific objectives in mind, the library must sketch out the duties and steps involved in creating a health-related programme. This study's goals are (i) to identify the framework's component for health literacy initiatives for user communities and (ii) to formulate strategies for implementing effective and impactful health literacy initiatives required by the user communities of public libraries.

1.2 Library Therapeutic Landscape Quality of the Public Library

Husaini, Noordin and Shuhidan (2018, 2019) adopting the notion of a therapeutic landscape in a public library has become crucial for meeting the perceptions and expectations of library users to combat the daily pressures of modern society. It began with an effort to comprehend the needs of library users concerning the therapeutic landscape given by the public library. The research investigated the interrelationship between all twelve (12) dimensions of therapeutic library elements. According to Husaini, Noordin, and Shuhidan (2015, 2016), the social and spiritual environments enhance library patrons' therapeutic satisfaction in terms of wellbeing and stress reduction and it is contributed to the healthy living style

Today's public libraries face a difficult environment. The duties and purposes of public libraries serve as a community centre to foster community and societal development. A public library is uniquely positioned within a community because it has access to the resources, services, and facilities necessary to give free access to books and host a range of community programming. According to Husaini (2020), in her model of the Public library therapeutic landscape. The library user is attentive and sensitive to the library's service, facilities, and collection. In the long-term deployment of library therapeutic landscape quality in Malaysia, the library therapeutic landscape environment, including the natural and built environment, library social environment, and library spiritual environment, may need to continuously meet the quality measures and requirements in order to gain users' confidence and trust in the continued use of public libraries as an alternative place or second home or a meeting community place, as well as human capital development and also in developing a health community

2.0 Methodology

A review of pertinent literature is done and the key literature components for this study are presented in a literature keymap. A literature map is a two-dimensional diagrammatic representation of information where linkages between concepts are formed by drawing arrows (Cresswell, 2011). It is crucial to convey the various points of view and any contradictory research results that might be found in the literature (Newby, 2014). A corpus of reviewed texts for technology and business studies, or the social, behavioural, and physical sciences, as well as works with aesthetic worth, can be used to create a map to assist the mind in visualizing relationships and connections from any form of literature. For this study, the components involved to be synthesized are as in Fig. 1.

Authors	Components
Lee et al. (2004)	<ol style="list-style-type: none"> 1. Disease knowledge and self-care 2. Health risk behaviour 3. Preventive care and routine physician visits 4. Compliance with medications
Marmot (2005)	<ol style="list-style-type: none"> 1. Social gradient 2. Stress 3. Early life 4. Social exclusion 5. Work 6. Unemployment 7. Social support 8. Addiction 9. Food 10. Transport
McCormack et al. (2018)	<ol style="list-style-type: none"> 1. Individual 2. Interpersonal 3. Organizational 4. Community 5. Macro
Luo (2018)	<ol style="list-style-type: none"> 1. Health knowledge and resources 2. Healthy physical activity 3. Basic health needs 4. Health care 5. Health cause
Philbin et al. (2019)	<ol style="list-style-type: none"> 1. Health care access 2. Addiction 3. Stress 4. Food 5. Early life 6. The social gradient 7. Social exclusion 8. Work and employment 9. Disaster response 10. Social support

Fig. 1: Previous author's components in health-related factors

3.0 Proposed Framework

Research has shown that individuals with lower health literacy are less knowledgeable about diseases and less capable of properly caring for themselves (Arnold et al., 2001; Davis et al., 1996; Gazmararian, Williams, Peel, & Baker, 2003; Kalichman, Ramachandran, & Catz, 1999; Kalichman et al., 2000; Knight, 1999; Lindau et al., 2002; Miller et al., 2003; Schillinger et al., 2002; Williams, Baker, Honig, Lee, & Nowlan, 1998; Williams et al., 1998; Wolf et al., 2005). The areas of medical knowledge and self-care documented to be associated with health literacy include the knowledge of tobacco effects, diabetes, hypertension, chronic heart failure, asthma, HIV/AIDS, and the knowledge of prostate cancer screening and management, mammography screening, and cervical cancer prevention. Disease knowledge may be treated as a subcomponent of health literacy, including general health background knowledge (Neilsen-Bohlman et al., 2004). However, since it is unclear what constitutes "background" health knowledge and to what extent health literacy should encompass disease knowledge, we are treating it as a separate construct in this study.

3.1 Health Cause

With an estimated 1445 public libraries nationwide and 7.38 million members, libraries have extensive population reach (Perpustakaan Negara Malaysia, 2020). Furthermore, unlike other service-providing institutions (e.g., medical institutions and certain social welfare institutions), the public widely trusts libraries. These factors make them a suitable space for coordinating and delivering health-promoting services. Health-Related Programmes Timely access to quality healthcare information during an outbreak is important in reducing its spread. However, often when an attack occurs, the source of information is very limited. Difficulty in finding information related to health does not only occur during the COVID-19 pandemic. It also happened during the H1N1 pandemic or Influenza A (Majid & Rahmat, 2013). At that time, the need for information related to health was very high. People are starting to seek information about the potential risks, disease symptoms, precautions, and possible treatments and interventions. However, with the development of technology, information is easily disseminated on various social media platforms and forwarded immediately by the people without verifying the authenticity of the source (Ladan et al., 2020).

3.2 Health Care

COVID-19 was declared a global pandemic at the end of 2019 by the World Health Organization (WHO). At the same time, it has affected the whole world, including Malaysia. Due to the very limited information on it has a negative impact on society such as panic and anxiety. Furthermore, previous studies found that 9 out of 10 people lack the skills to manage health and prevent certain diseases (Luo, 2018). There is a lot of inaccurate information about it, which adds to the community's concerns. As a result, strategies to curb this infection from continuing to spread become difficult because important information does not reach the community (Wang & Lund, 2020). Health-related information is needed by everyone, including medical practices and the public. Here the role of libraries, especially public libraries, should be given attention in conducting programmes and activities to initiate useful and accurate information on health. Having efficient and effective access to high-quality and understandable health information will help the public enhance health literacy. Libraries are trusted

community spaces whose unique benefits include assisted digital access, health information resources and services, and the volunteering and recreational opportunities they provide. Libraries can deliver health and well-being benefits to local communities including those who may not normally access other services.

3.3 Basic Health Needs

COVID-19 was declared a global pandemic at the end of 2019 by the World Health Organization (WHO). At the same time, it has affected the whole world, including Malaysia. Due to the very limited information on it has a negative impact on society such as panic and anxiety. Furthermore, previous studies found that 9 out of 10 people lack the skills needed to manage health and prevent certain diseases (Luo, 2018). There is a lot of inaccurate information about it which adds to the concerns of the community. As a result, strategies to curb this infection from continuing to spread become difficult because important information does not reach the community (Wang & Lund, 2020). Everyone including medical practices and the public needs health-related information. Here the role of libraries, especially public libraries, should be given attention in conducting programmes and activities to initiate useful and accurate information on health. Having efficient and effective access to high-quality and comprehensible health information will help the public enhance health literacy. Libraries are trusted community spaces, whose unique benefits include assisted digital access, health information resources and services, and the volunteering and recreational opportunities they provide. Libraries can deliver a range of health and wellbeing benefits to local communities including those who may not normally access other services.

3.4 Health Physical Activity

With an estimated 1445 public libraries nationwide and 7.38 million members, libraries have extensive population reach (Perpustakaan Negara Malaysia, 2020). Furthermore, unlike other service-providing institutions (e.g., medical institutions and certain social welfare institutions), the public widely trusts libraries. These factors make them an opportune space for coordinating and delivering health-promoting services. Health-Related Programmes Timely access to quality healthcare information during an outbreak is important in reducing its spread. However, often when an outbreak occurs, the source of information is very limited. Difficulty in finding information related to health does not only occur during the COVID-19 pandemic. It also happened during the H1N1 pandemic or Influenza A (Majid & Rahmat, 2013). At that time, the need for information related to health was very high. People are starting to seek information about the potential risks, disease symptoms, precautions, and possible treatments and interventions. However, with the development of technology, information is easily disseminated in the various platform of social media and forwarded immediately by the people without verifying the authenticity of the source (Ladan et al., 2020).

3.5 Health Knowledge and Resources

To increase health literacy and awareness, health-related initiatives from a trusted information expert or institutions such as libraries are required. Society needs efficient and effective access to high quality and understandable health information. In addition, the government began to study preparedness and adopt the best methods to curb this epidemic. The basic steps to increase this preparedness effort are to provide up-to-date information and awareness among the public.

Health-related initiatives can be defined as library programmes and activities focusing on health related topics, they are an essential way for public libraries to reach out to their user communities, raising awareness of and interest in healthy lifestyle, promoting access to quality health information, and ultimately enhancing health knowledge of the citizenry (Luo, 2018). Luo and Park (2013) explain, these programmes can extend the ability of an individual to obtain, process and understand the basic health information and services needed to make appropriate health decisions. The value of health-related information, on the other hand, is determined by the information sources accessible. People can acquire information via television, radio, and various periodicals during those days (Gillaspy, 2000). Nevertheless, people now choose to use internet searching to meet their knowledge needs from a variety of online sources. Previous research by Luo and Park (2013) found that the majority of respondents used libraries for general health information requirements, with 60% indicating that libraries were among their favourite sources of health information. According to Flaherty (2013), library customers use public libraries for their health information requirements, yet only a small number of public library employees are qualified to search and assess medical material.

3.6 Literature Key Map

The majority of the literary works contain the terms "health knowledge and resources," "health physical activity," "health care," "basic health needs," and "health cause" as in Figure 2. Literature maps use graphic techniques of shaping and grouping written information into categories that will provide better visualization for the research to move forward with the study. These findings lead to the discovery of a framework that may be helpful to this study of the enlightenment sought as seen in the figure 2.

Because of the ability to see the research path, as stated, this study has adopted the approach of literature mapping. In short, creating a map that serves as a visual representation of your reading can aid you in making new connections (Thomson, P. 2016). It might be able to see things more clearly by switching from writing to a visual format, which frequently results in fresh discoveries and also identifying any reading gaps. By this the study will be able to synchronize with the proposed framework which will be the driver of change for the future library's programmes and activities.

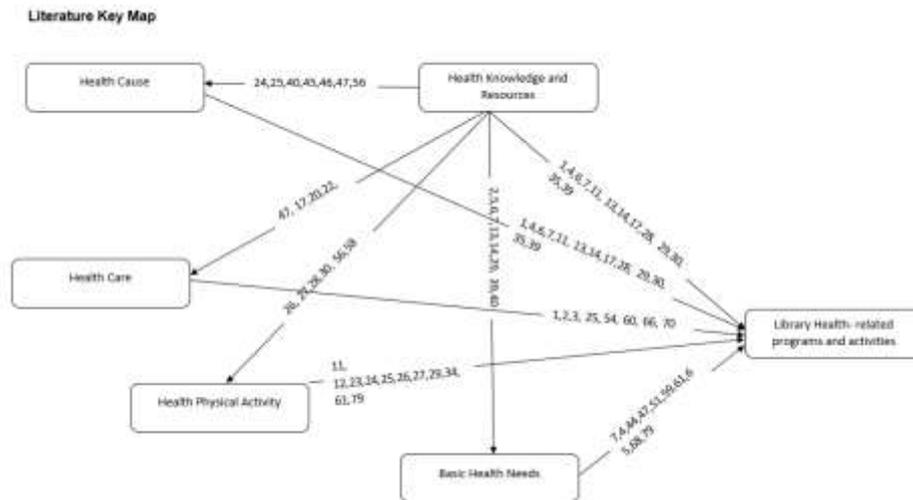


Fig. 2: Literature Key Map

The proposed framework depicted in Figure 3 shows the health knowledge and resources, health cause, health care, health physical activity, and basic health needs as the factors to contribute in library health-related programmes and activities

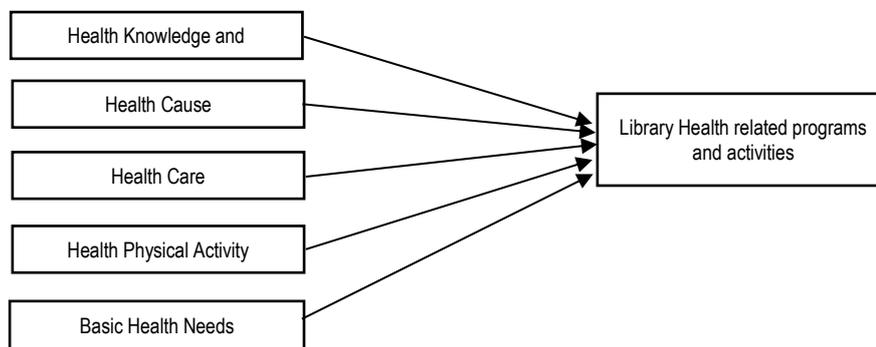


Fig. 3: Proposed Theoretical Framework

4.0 Results and Discussion

Although this method is often seen as eccentric because all researchers will take a simple and short way to form useful research, applying this method can provide comprehensive enlightenment and more subtle and clear findings. There are several frameworks that have been developed to identify the appropriate components as initiatives in providing health-related information to the community. Certainly, these can improve the health literacy skills of the community. Lee et al. (2004) in their study have introduced a framework to increase the knowledge of the community related to health which the framework combines four interconnected components namely disease knowledge and self-care, health risk behaviour, preventive care and routine physician visits, and compliance with medications. Findings from the study show that individuals with poor health-related knowledge tend to have more inadequate health behaviours, less frequent preventive treatment and doctor visits, and poor adherence to routine clinical visits and medications. It may delay seeking timely treatment and produce poor health outcomes.

Meanwhile, Marmot (2005) suggested a major thrust that contains several components that need to be implemented and made into public health knowledge, changing the circumstance of which people live and work. This is because it provides a huge imbalance in health where health-related information does not reach all targets. This study also suggests that knowledge related to health should be the focus of policymakers in every sector, not just those involved in health policy. The ten components emphasized are the social gradient, stress, early life, social exclusion, work, unemployment, social support, addiction, food, and transport. These components refer to human needs involving health.

On the other hand, McCormack et al. (2016) released a health-related framework based on social-ecological models. In this framework, five levels need attention: individual, interpersonal, organizational, community and macro. These levels refer to health information needs such as health-related knowledge, attitudes, health beliefs including fatalism, perceptions of risk and benefit; values and preferences for level of involvement; health literacy skills. Study by Luo (2018) presents a content analysis of the health information programmes provided by a large urban public library system in the past year, seeking to strengthen the professional understanding of how

public libraries can contribute to health literacy improvement through effective programming, and help other libraries gain insights on health information programmes planning and implementation. This study focuses on five topical categories, namely, health knowledge and resources, healthy physical activity, basic health needs, health care and health causes.

In conclusion, the vital part of literature key development is to evaluate the core elements of the topic in depth as Philbin et al. (2019) mentioned the library's potential as a 'meso level' community resource to improve the community's health. Thus, a framework referring to the original work of Marmot (2005) has been introduced, that navigates the literature key development. Unlike other frameworks, this study makes use of the components needed to build a vital library reference so that it may successfully host events with a health-related theme. The elements that have been discovered could assist future research in development of library health programmes and materials, as well as ways to increase invisibility for libraries or any information centres. We have high hopes that these results will point the way and shed light on how to properly develop guidelines for a library's effort in disseminating health information through activities and programmes.

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References

- Adibmanesh, M., Khasseh, A. A., & Adibmanesh, M. (2019). Identification of the Extra Services in the Public Libraries of Kermanshah Province and their Role in Attracting and Retaining Children and Adolescents. *Research on Information Science and Public Libraries*, 25(1), 153-178.
- Cervone, F. (2008). ITIL: a framework for managing digital library services. *OCLC Systems & Services: International digital library perspectives*.
- Fatoki, O. C. (2005). Prospects of GSM technology for academic library services. *The Electronic Library*.
- Husaini, H., Noordin, S.A., Shuhidan, S.M. (2019) Proceedings of the 33rd International Business Information Management Association Conference, IBIMA 2019: Education Excellence and Innovation Management through Vision 2020
- Husaini, H., Noordin, S.A., Shuhidan, S.M. (2019) "Accommodating Children's Social Wellbeing through Library Therapeutic Landscape: A Conceptual Framework". 33rd IBIMA Conference, 10-11 Apr. 2019, Granada, Spain
- Husaini, H., Noordin, S. A., Shuhidan, S. M., & Bahry, F. D. S. (2018). Library Therapeutic Landscape Quality Approaches in Public Libraries: A Pilot Study. *International Journal of Academic Research in Business and Social Sciences*, 8(9), 439-451.
- Husaini H., Noordin, S.A and Shuhidan S.M (2015). Bibliotherapy in the Malaysian Public Libraries: A Conceptual Framework'. The Asian Conference on Literature and Librarianship 2015. Osaka 2 – 5 April. Conference Proceedings; ISSN 2186-2281
- Husaini H., Noordin, S.A and Shuhidan S.M (2015). Assessing The Public Library Therapeutic Landscape Quality and Satisfaction: A Conceptual Framework. *International Journal of Computer Science and Electronic Engineering*, 3 (5): 371 – 374.
- Hart, R. A. (2013). *Children's participation: The theory and practice of involving young citizens in community development and environmental care*. Routledge.
- Chatterji, A. K., Levine, D. I., & Toffel, M. W. (2009). How well do social ratings actually measure corporate social responsibility? *Journal of Economics & Management Strategy*, 18(1), 125-169.
- Dhruv K, Chokshi DA. Health, income, & poverty: where we are & what could help. Health Affairs Health Policy Brief. 2018
- Flaherty, M. G. (2013). The public library as health information resource? (Doctoral dissertation, Syracuse University).
- Gillaspy, M. L. (2000). Starting a consumer health information service in a public library. *Public Library Quarterly*, 18(3-4), 5-19.
- Ladan, A., Haruna, B., & Madu, A. U. (2020). COVID-19 pandemic and social media news in Nigeria: The role of libraries and library associations in information dissemination.
- Lee, S. Y. D., & Arozullah, A. M. (2004). Cho Yi. Health literacy, social support, and health: a research agenda. *Soc Sei Med*, 58, 1309-21.
- Luo, L. (2018). Health information programming in public libraries: a content analysis. *Public Library Quarterly*, 37(3), 233-247.
- Luo, L., & Park, V. T. (2013). Preparing public librarians for consumer health information service: A nationwide study. *Library & Information Science Research*, 35(4), 310-317.
- Khan, M. S., Sentosa, I., & Salman, F. (2018). Exploring the role of transformational leadership in human capital effectiveness: Empirical evidence from the Malaysian healthcare sector. *World Journal of Entrepreneurship, Management and Sustainable Development*, 14(2), 191-204.
- Shahibi, M. D. M. S., Mazlan, M. A., Noor, H. M., & Hanafiah, M. S. M. (2013). Perception towards the credibility of information in internet among young Malay generation. *International Journal of Education and Research*, 1(7), 1-8.
- Dai, H., Zhang, S. X., Looi, K. H., Su, R., & Li, J. (2020). Perception of health conditions and test availability as predictors of adults' mental health during the COVID-19 pandemic: A survey study of adults in Malaysia. *International journal of environmental research and public health*, 17(15), 5498.

- Bonten, T. N., Rauwerdink, A., Wyatt, J. C., Kasteleyn, M. J., Witkamp, L., Riper, H., (2020). Online guide for electronic health evaluation approaches: Systematic scoping review and concept mapping study. *Journal of medical Internet research*, 22(8), e17774.
- Cervone, F. (2008). ITIL: a framework for managing digital library services. *OCLC Systems & Services: International digital library perspectives*.
- Fatoki, O. C. (2005). Prospects of GSM technology for academic library services. *The Electronic Library*.
- Adibmanesh, M., Khasseh, A. A., & Adibmanesh, M. (2019). Identification of the Extra Services in the Public Libraries of Kermanshah Province and their Role in Attracting and Retaining Children and Adolescents. *Research on Information Science and Public Libraries*, 25(1), 153-178.
- Hart, R. A. (2013). *Children's participation: The theory and practice of involving young citizens in community development and environmental care*. Routledge.
- Chatterji, A. K., Levine, D. I., & Toffel, M. W. (2009). How well do social ratings actually measure corporate social responsibility? *Journal of Economics & Management Strategy*, 18(1), 125-169.
- Dhruv K, Chokshi DA. Health, income, & poverty: where we are & what could help. Health Affairs Health Policy Brief. 2018
- Flaherty, M. G. (2013). The public library as health information resource? (Doctoral dissertation, Syracuse University).
- Gillaspy, M. L. (2000). Starting a consumer health information service in a public library. *Public Library Quarterly*, 18(3-4), 5-19.
- Ladan, A., Haruna, B., & Madu, A. U. (2020). COVID-19 pandemic and social media news in Nigeria: The role of libraries and library associations in information dissemination.
- Lee, S. Y. D., & Arozullah, A. M. (2004). Cho YI. Health literacy, social support, and health: a research agenda. *Soc Sei Med*, 58, 1309-21.
- Luo, L. (2018). Health information programming in public libraries: a content analysis. *Public Library Quarterly*, 37(3), 233-247.
- Luo, L., & Park, V. T. (2013). Preparing public librarians for consumer health information service: A nationwide study. *Library & Information Science Research*, 35(4), 310-317.
- Khan, M. S., Sentosa, I., & Salman, F. (2018). Exploring the role of transformational leadership in human capital effectiveness: Empirical evidence from the Malaysian healthcare sector. *World Journal of Entrepreneurship, Management and Sustainable Development*, 14(2), 191-204.
- Shahibi, M. D. M. S., Mazlan, M. A., Noor, H. M., & Hanafiah, M. S. M. (2013). Perception towards the credibility of information in internet among young Malay generation. *International Journal of Education and Research*,
- Timan, H., Kama, N., Yusoff, R. C. M., & Ali, M. (2021). The Application of Medical and Health Informatics Among the Malaysian Medical Tourism Hospital: A Preliminary Study. In *Advances in Computer, Communication and Computational Sciences* (pp. 743-754). Springer, Singapore.
- Ariffin, N. A. N., Yunus, A. M., Syamsuriansyah, S., & Kadir, I. K. A. (2022). Health Informatics. *Proceedings Science, Ethics & Civilization*, 1, 58-64.
- Shuhidan, S. M., Yahaya, W. A. W., Hashim, H., Shuhidan, S. M., & Abd Hakim, A. A. (2019). Malaysian research students encounter with information seeking process for academic purposes. *Journal of e-Learning and higher education*, 1-10.
- Malek, J., & Desai, T. N. (2020). A systematic literature review to map literature focus on sustainable manufacturing. *Journal of Cleaner Production*, 256, 120345.