A Review of Pharmaceutical Services at Community Pharmacies for Persons with Disabilities

Ni Made Ayu Nila Septianingrum[1], Fitriana Yuliastuti[1*], Widarika Santi Hapsari[1]

[1]*Department of Pharmacy, Universitas Muhammadiyah Magelang, 56172, Indonesia*
Corresponding author's email: fitrianayuliastuti@ummgl.ac.id

ABSTRACT

WHO data shows that Persons with Disabilities in the world in 2010 was 15.6 percent of the total world population or more than 1 billion. The results of the 2018 Basic Health they are says, people with disabilities have the same rights as normal people in general, especially in public services in the form of health services. This study was limited to English and publications from 2016 to 2020. The electronic databases used to identify relevant studies were, PubMed, Science Direct, ProQuest, and Sage Pub. The characteristics and results of the study are recording and comparing. The keywords used are Boolean search combinations (AND, OR). The number of journals obtained was 3583 journals, and then the initial selection is according to the desired inclusion, namely Pharmaceutical Care and the Deaf, resulting in 77 journals. Of the 77 journals, they were summarized again based on the research criteria used, in order to obtain 5 main journals used in this review. Research conducted in Addis Ababa. Ethiopia stated that out of 19 respondents, 15 of them stated that they could not access community pharmacy services in their area. The 12 of them stated that the obstacles came from transportation barriers. On the other hand, in Fukouka, 30% of pharmacists do not understand the communication that has been made with deaf patients regarding drug use, they believe that only by writing they can understand it, and deaf patients do not have the confidence to communicate with strangers. The problem of pharmaceutical services both in terms of the community, especially with health workers (pharmaceutical personnel) in several countries is almost the same. These activities are not only hampering in terms of physical and communication, but in terms of human resources. There needs to be special training and regulations governing pharmaceutical.

Keywords: *Disability; Pharmaceutical Care; Pharmacy*

1. INTRODUCTION

Referring to The UN Convention of the Rights of Persons with Disabilities, people with disabilities are people who have physical, mental, intellectual, and or sensory disorders or damage for a long time and interact with various barriers who can participate fully and effective in society based on equal rights with others [1]. In recent years, the term disability has introduced as a substitute for requirements or imperfection, which refers to a negative direction that sounds like discrimination. WHO data shows that the number of Persons with Disabilities in the world in 2010 was 15.6 percent of the total world population or more than 1 billion. This means that 15 out of every 100 people in the world are people with disabilities. Around 2-4 out of 100 people with disabilities in the world fall into the category of people with severe disabilities. The results of the Basic Health Research *(Riskesdas)* in 2018 showed that disability in the Indonesian population aged 5-17 years was 3.3% and at the age of 18-59 years, it reached 22%, the highest in Central Sulawesi and the lowest in Lampung (P2PTM). [2].

Article 19 in the Law of the Republic of Indonesia Number 8 of 2016 concerning Persons with Disabilities states that people with disabilities have the same rights as normal people in general, especially in public services. As well as obtaining adequate accommodation in public services in an optimal, fair, dignified manner without discrimination and get assistance, translation, and the provision of easily accessible facilities at public service places at no additional cost [3]. Even though are stipulating in the law, discriminatory treatment is still accepting by the disabled community in many ways. One example is in health services. There are not many health service facilities are friendly for them, both in terms of physical facilities and in terms of services. There are not many public facilities that provide special rooms for people with disabilities, for example in pharmacies there

Z. B. Pambuko et al. (Eds.): BIS-HSS 2021, ASSEHR 667, pp. 325–330, 2023.
https://doi.org/10.2991/978-2-494069-49-7_54

are still many that do not provide road access for wheelchairs, or rarely want to serve patients who are considered unable to communicate well. Not only in Indonesia, for example people with disabilities in Ethiopia and Addis, Ababa, the capital of Ethiopia. Health care is a human right, but barriers to accessing health are the main obstacles for people with disabilities. (Solomon). Likewise, in terms of access to health information, they are considering not needing information because of their limitations or forgetting. This was confirmation in a study that explained that groups with disabilities are neglecting in health and education programs because they were deemed not to need the information, or did not have the ability to obtain the information [1] . The purpose of this study was to determine the barriers for people with disabilities in obtaining health services, especially in community pharmacies.

2. METHOD

This literature study was conducted by searching for electronic reference sources in PubMed, Science Direct, ProQuest, Sage Pub. All databases used are from reputable sources from 2016 to 2020. The keywords used are using a combination of Boolean search (AND, OR), in this literature review using the keywords “Pharmaceutical care AND Deaf Disabilities” AND “disabilities, AND drug information, AND counselling, AND pharmaceutical care, AND deafness”. The initial total of journals obtained was 3583 journals, then selected according to the desired inclusion, namely Pharmaceutical Care and Deaf Disability, so that there were 77 journals. From 77 journals, it was extracted again based on the research criteria used such as pharmaceutical services for patients with disabilities, so that 5 main journals were used in this journal review.

3. RESULT AND DISCUSSION

According to Government Regulation No. 51 of 2009, [4]) Pharmaceutical Services is a direct and responsible service to patients related to Pharmaceutical Preparations with the aim of achieving definite results to improve the quality of life of patients. This understanding in general can reach everyone and is applying to all without any special treatment for each group. America 31 years ago, to be precise on July 26, 1990, a cooperation agreement with the America Disability Act (ADA) which protects groups of people with disabilities in America so that they have equal opportunities, participate fully in community activities, live independently and the economy is also fulfilled [5]. For a health professional must be able to apply the best practices of himself in order to be aware of the communication skills of each patient. An example of a professional that exists is that pharmacists must have effective knowledge about how to communicate with people with disabilities who have hearing loss to provide information and education about good and correct treatment. Communication is an important component in the interaction between health care providers and patients. If the provider cannot convey important information effectively, the expected treatment goals will not be achieved [6]. A few pharmaceutical practices that can understand and communicate well with people with disabilities in the world. For example, in Dublin, Ireland, the pharmaceutical community supported by the local Government's Irish Pharmacy Union (IPU) supports the implementation of disability-accessible pharmaceutical practices. The implementation began with the publication of booklets, for persons with disabilities by the distribution of modules for sustainable professional development nationally (ICCPE) and IPU [7]. Systematic and continuous assessment of persons with disabilities is a critical point in science and medicine [8].

Research conducted in Addis Ababa [9], Ethiopia stated that out of 19 respondents, 15 of them stated that they could not access community pharmacy services in their area. The 12 of them stated that the obstacles came from transportation barriers. They need transportation to get the prescribed medicine, because around their area there is no such medicine. They said that many friends with disabilities who live in the same area do not take the medicines they should take because of transportation problems. For example, little space is provided in transport for those in wheelchairs [9]. In Indonesia, there are also very few public transportation facilities that can facilitate the mobility of people with disabilities, and that also comes from government public transportation, which is far less in number than privately owned public transportation. Internationally and nationally, Indonesia has demonstrated a commitment to protecting and opening up the widest possible opportunities for persons with disabilities to actively participate in development [10]. Public facilities in Indonesia have started to exist for people with disabilities and even have the same opportunity to become government employees, in other words, the government has started to focus on handling this group.

The physical form of facilities for the disabled in health facilities is very low, some of which already exist are in hospitals. For example, special roads for wheelchair users, special areas that have handrails for the visually impaired. Meanwhile, there are very few health facilities in the form of pharmacies in Indonesia or even no special facilities for people with disabilities. For example, special access roads or handrails for the blind. This is the same as the results of research that has been carried out in Adis Ababa, the lack of these facilities is included in the category of physical barriers. Of the 19 respondents, 10 respondents stated that some pharmacies have several stairs that must be passed in order to enter the pharmacy in addition to that the road to the pharmacy is not safe, because many cars go back and forth, open ditches, road repairs and tunnel excavations without any

special markings and many people so that it is not possible to do activities on their own without the help of others. Conditions in the pharmacy which have slippery floors make it difficult for persons with disabilities who use wheelchairs and canes to operate their assistive devices [9].

Research in Scotland through interviews with geriatrics who had decreased vision and hearing [11] stated that patients with visual impairments complained of having difficulty reading medicine labels and see different colour of medicine. Meanwhile, patients with hearing impairments complained that they were afraid of drug overdose because they did not clearly listen to the rules for taking drugs that were conveyed by pharmacists. The pharmacy staff here have not carried out routine home care so that the problems experienced by the geriatric are not properly monitored. Assistance can be done by the next of kind to remind or prepare medicine. This is very helpful and motivates patients in improving medication adherence [12].

The implementation of community pharmacy services with patients with disabilities in Malaysia, for example, deaf and speech impaired patients experience barriers to communication, due to the imperfect shape of their organs and their discomfort in communicating with people outside their environment. This can be fatal for both the pharmacist and the patient because it can lead to medication errors [13]. The results showed that people with disabilities, especially those who are deaf and speech impaired, are not comfortable communicating with foreigners without the help of a translator. They prefer to remain silent and keep their problems under wraps. For example, when they are sick they look for sources of drug information on a website and then write it down on a piece of paper. The paper taken to the pharmacy to be exchanged for medicine, or they prefer to use an application to buy medicine. The application makes them not need to meet other people and definitely get the cure.

The absence of communication during pharmacy services in the community can lead to medication errors. People with disabilities prefer communication that uses pictures, videos, and interesting writings to read, so one approach in this group is to use interactive multimedia videos [14] and use sign language. Many applications have been created for this group, but they say they are not comfortable using them. They are comfortable using the application Voice-based from google.com, because of the accuracy of translating other people's voices into letters. While the applications they have are foreign-made applications based on words outside Indonesia, in other words, there are many mistakes in translating voice into writing so that it can be miscommunicating or misunderstanding. The results of research obtained in America stated that only 7% of pharmacists had interacted with or met patients with disabilities, the rest had never met; this happened because they lacked confidence and were lazy to talk to others because of their limitations (Ferguson & Shan, 2016) and lack of vocabulary. Words they master [15].

People with hearing impairment and speech impairment need a system/application that purely made in Indonesia so that the translation from voice to writing is not misunderstood or biased. Research conducted in Malaysia related to creating a system that makes it easier for the deaf to get medicine (eHealth) and a medication reminder application (Pill Phone) and Cardio manager are carryout. The Cardio Manager Application system has proved to save 33% of diagnostic costs. From the results obtained, people with disabilities, especially the deaf, also prefer to use video and there are notifications for every activity so that they can always be up to date. In addition, they want the application are connecting to an online shopping application for drugs. However, they realize that online shopping applications are only for over-the-counter medicines and vitamins. This is slightly different from in Indonesia, where there are still many online shopping applications, provide the drugs other than over-the-counter drugs that are easily obtaining and vitamins. The government needs help to screen these online shops so that people are safe in obtaining drugs. If this online shopping application complies with the rules in terms of drug availability, then this can be a good solution for all parties. People will get medicine faster and no longer need to queue at the pharmacy. Sophistication in using a technology must have positive and negative impacts, the positives as previously stated. While the negative, among others, is patient confidentiality. By uploading all confidential patient health records, it can allow hacking / theft of data that is dangerous for the patient. In addition, although the basis of pharmaceutical services is patient oriented, it is also undeniable that the pharmacy is a business unit that wants a profit. If patients shop online, the opportunity to offer other health products will be closed and this is still in accordance with pharmaceutical work [16]. The following table 1 is a summary of this journal review:

Table 1 Summary of Review

Title	A qualitative study on the design and development of an mhealth app to facilitate	A Qualitative Exploration of Barriers in Accessing Community Pharmacy Services for Persons with	Survey Evaluation of Pharmacy Practice Involving Deaf Patients	“We're really not ready for this”: A qualitative exploration of community pharmacy	Survey of Pharmacists’ Knowledge, action and confidence in Medication Education to

	communication with the Deaf community: perspective of community pharmacists	Disability in Addis Ababa, Ethiopia: A phenomenological Study		Personnel's perspectives on the pharmaceutical care of older people with sensory impairment pharmacists	Patients with Hearing Dissabilities
Year and author	2019, Elizabeth Yie-chuen chong, Uma Devi Palanisamy, sabrina Anne Jacob	2017, Solomon Getnet Meshesha, Nebiyou Dagnachew, Zelalem Tilahun Mekonen Addis.	2016, McKenzie C., Ferguson and Leah Shan.	2018, N.Alhusein; K.Killick; L.Macaden; A,Smith; K,Stoddart; A,Taylor; T,Kroll; M.C,Watson	2020, Naomi Hyoguchi; Tomoko Kamauchi; Masatoshi Hoshino and Toshio Kubota
Setting	Malaysia	Ethiopia	USA	Scotland, UK	Japan
Period	1–2 hours	February 4, 2017 to June 10, 2017	A month	2015-2016	November 2019
Aim	Prepares the groundwork on the potential design and development of a mobile health (mHealth) app that will be able to bridge the communication gap between pharmacists and patients who are Deaf and Hard of Hearing (DHoH).	to explore the barriers to community pharmacy service for individuals with physical, visual and hearing disability in Addis Ababa, Ethiopia.	better understand pharmacists' current means of communicating with deaf patients as well as investigating pharmacists' knowledge of their legal responsibility to these patients	community pharmacy personnel's experiences with providing pharmaceutical care for older people with sensory impairment (sight and hearing).	examined the knowledge about hearing disabilities, practice of appropriate actions and confidence in medication education to deaf and HH patients
Population	12-15	All members from Ethiopian National Association of the Blind (ENAB), Ethiopian National Association of the Deaf (ENAD) and Ethiopian National Association of persons with Physical Disability (ENAPPD) and all community pharmacy professionals in Addis Ababa	73 pharmacists	Community pharmacy across Scotland (17) and other pharmacy personnel (13)	216 Pharmacist in Yahata Pharmaceutical Association
Method	FGD and interview	A phenomenological qualitative study design.	cross-sectional, survey-based study	Semi-structured telephone interviews	Questioner
Adherence instrument	List of closed-ended questions	Interview Open Question	List of closed-ended 15 questions	Semi-structured telephone interviews	List of closed-ended questions
Validation of Instrument	experts in qualitative research, and	All key informant interviews were administered by the	A question was delivered either electronically or	The semi-structured topic was developed by	

	experts in app design and development.	principal investigator who was trained on qualitative research methods.	directly in-person to pharmacies located within the specified area as identified by census data.	the research team with the Project Advisory Group. pilot data were included in the final analysis. Interviews were conducted by (KK), a post-doctoral female health psychologist researcher, PhD	
Conclusion	Through the development of this application, it is hoped that DHoH individuals are better served with better communication, which is expected to result in better health outcomes and increase patient satisfaction. From a pharmacist's perspective, the app will facilitate a better understanding of the Deaf culture and assist in providing pharmaceutical care to such patients.	transportation, physical, communication, and drug prices are the main obstacles in getting community pharmacy services for people with visual, physical, and hearing disabilities. Respondents also witnessed pharmacists providing good counselling services and were also cooperative and willing help. Further detailed study's recommended for knowing the proportion of individuals with different disabilities who are affected, what are the differences in other community pharmacy services and barriers to access to services and what are the possible solutions to have access to appropriate, quality and affordable community pharmacies.	Communication is avital part of providing quality health care. As a health care provider, pharmacists have a responsibility to ensure that medication-related information is effectively conveyed to deaf patients.	Communication is avital part of providing quality health care. As a health care provider, pharmacists have a responsibility to ensure that medication-related information is effectively conveyed to deaf patients.	Through the development of this application, it is hoped that DHoH individuals are better served with better communication, which is expected to result in better health outcomes and increase patient satisfaction. From a pharmacist's perspective, the app will facilitate a better understanding of the Deaf culture and assist in providing pharmaceutical care to such patients.
Source of funding	Monash University Malaysia	Not Applicable	No financial support	Scottish Government which funded this study (CZH/4/1113).	No Funding Support

4. CONCLUSION

The conclusion of this review is the problem of pharmaceutical services both in terms of the community (disability in particular) and health workers (pharmaceutical personnel) in several countries is almost the same. These activities are not only hampered in terms of physical and communication, but also in terms of

human resources. Recommendations that can be given from this literature, need special training and regulations governing pharmaceutical services for certain groups of society so that all lines feel that they receive the same treatment in health. To facilitate communication with people with disabilities, it is necessary to have an application based on their original needs made by children of the country so that they can be used optimally by them. Access to health facilities for people with disabilities needs to be improved, especially in public facilities, so that they can also be independent in carrying out an activity.

ACKNOWLEDGMENT

We would like to thank LPPM Universitas Muhammadiyah Magelang for providing assistance from the beginning to the end of this article and thanks to reviewers and proofreaders who help prepare equipment set-ups.

REFERENCES

[1] J. Hanass-Hancock, I. Regondi, L. van Egeraat, and S. Nixon, "HIV-Related Disability in HIV Hyper-Endemic Countries: A Scoping Review," *World Journal of AIDS*, vol. 03, no. 03, pp. 257–279, 2013, doi: 10.4236/wja.2013.33034.

[2] BPS, "Jumlah Penduduk 15 tahun keatas menurut jenis kegiatan selama seminggu yang lalu," *magelangkab.bps.go.id*, 2019. .

[3] Kementerian Kesehatan Republik Indonesia, "Undang-Undang Republik Indonesia Nomor 8 Tahun 2016 Tentang Penyandang Disabilitas," 2016, no. June.

[4] Peraturan pemerintah no 51, "Kemenkes," *Peraturan Pemerintah 51*, vol. 124, no. 1, pp. 1–41, 2009.

[5] G. Peacock, L. I. Iezzoni, and T. R. Harkin, "Health Care for Americans with Disabilities-25 Years after the ADA," *The New England Journal of Medicine*, p. 373, 2015, doi: 10.1056/NEJMp1508854.

[6] M. C. Ferguson and L. Shan, "Survey Evaluation of Pharmacy Practice Involving Deaf Patients," *Journal of Pharmacy Practice*, vol. 29, no. 5, pp. 461–466, 2016, doi: 10.1177/0897190014568379.

[7] M. Gilbert, "Accessibility for Customers with Disabilities in Community Pharmacies," *The Equality Authority*, vol. 1st, pp. 1–24, 2008.

[8] B. Swenor and L. M. Meeks, "Disablity Inclusion-Moving Beyong Mission Statements," *New England Journal of Medicine*, vol. 380, no. 22, pp. 2087–2089, 2019, doi: 10.1056/nejmp1901233.

[9] S. G. Meshesha, N. Dagnachew, and Z. T. Mekonen, "A Qualitative Exploration of Barriers in Accessing Community Pharmacy Services for Persons with Disability in Addis Ababa, Ethiopia : A phenomenological Study," pp. 1–14.

[10] KPPPRI, "Menteri Bintang: Mari Bersinergi Wujudkan Indonesia Ramah Disabilitas," *Kementerian Pemberdayaan Perempuan Dan Perlindungan Anak Republik Indonesia*, 2020. .

[11] N. Alhusein *et al.*, "'We're really not ready for this': A qualitative exploration of community pharmacy personnel's perspectives on the pharmaceutical care of older people with sensory impairment," *Disability and Health Journal*, vol. 12, no. 2, pp. 242–248, 2019, doi: 10.1016/j.dhjo.2018.10.006.

[12] U. Assalwa *et al.*, "Profil Perilaku Pengelolaan Obat Pada Lansia," *Farmasi Komunitas*, vol. 8, no. 1, pp. 9–14, 2019.

[13] E. Y. C. Chong, U. D. Palanisamy, and S. A. Jacob, "A qualitative study on the design and development of an mHealth app to facilitate communication with the Deaf community: Perspective of community pharmacists," *Patient Preference and Adherence*, vol. 13, pp. 195–207, 2019, doi: 10.2147/PPA.S182516.

[14] K. A. Salsabila *et al.*, "Jurnal Pendidikan Khusus] Video Multimedia Interaktif Terhadap Keterampilan Berbicara Anak Tunarungu Tklb-B Video Multimedia Interaktif Terhadap Keterampilan Berbicara Anak Tunarungu Tklb-B," *Jurnal Pendidikan Khusus*, vol. 10, no. 2, pp. 1–20, 2018.

[15] Nurfadilah and Nurhastuti, "Media Pembelajaran Video Komunikasi Total Untuk Meningkatkan Penguasaan Kosakata Anak Tunarungu," *Jurnal Penelitian Pendidikan Khusus*, vol. 6, no. 1, pp. 230–237, 2018.

[16] Kementerian Kesehatan RI, "Peraturan Pemerintah Republik Indonesia Nomor 51 Tahun 2009 Tentang Pekerjaan Kefarmasian," Jakarta, 2009.