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## Information Needs and Seeking Behaviors of Communal Frontline Health Workers In Anambra State.

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**Information needs and seeking behaviors of communal frontline health workers in Anambra State.**

**Madukwe Atkinson Ike; Osonwa Justina Ogochukwu**

**ABSTRACT**

**Background:** Libraries all over the world has being under lockdown as a result of the problems presented by this novel coronavirus. While still grappling through this pandemic is the challenges of libraries to provide timely access to information to frontline health workers who are in dire need of information to better understand this virus. It is in view of the above ugly scenario that necessitated the researchers to undertake this study.

**Objective:** This paper suggest that information needs of health workers in Anambra State are diverse and vary from communities to communities depending on the prevalent health conditions available in such area.

**Methods:** Descriptive statistics with qualitative data analysis were conducted among the 136 communal frontline health workers between 1<sup>st</sup> April 2020 – 3<sup>rd</sup> March 2021. 136 health workers comprising of medical doctors, nurses, auxiliary nurses, frontline and community health workers were purposively selected across all the 21 local Government Area that make up Anambra State in South Eastern Nigeria. Pretest self-administered questionnaire and observation checklist were used to collect data on different variables. Data entry and analysis were done using Excel 2016 and SPSS 25.

**Results:** This paper reviewed the most common information needs found among medical doctors, communal frontline health workers, frontline workers and nurses. It observed that common information needs include diagnosis, drug(s), treatment and therapy. For faster answer to queries, colleagues remain a preferred information source among physicians and nurses. However, a persistent increase in use of information found in the internet was established.

**Conclusion:** Health workers need access to vaccines, drugs, protective gears, internet, job-specific resources in the management and treatment of covid 19 patients. In addition, timely provision of information and curative resources is important for effective administration of drugs to infected patients and contact tracing.

**Keywords:** Information Needs, Communal Frontline Health Workers, Seeking Behaviour, COVID-19, Coronavirus, Anambra.

## **Introduction**

Information is conceived as an important resource that contributes immensely towards the upbuilding of any society. Ideally, information brings about knowledge, and a knowledgeable community is also an informed community. This signifies that a community cannot develop without knowledge, and a community can only become knowledgeable if they recognize and use information as their tool for health advancement and growth Kamba (2009). Information is also seen as a resource that can liberate man. In other words, “an informed mind is an enriched mind”. Every rational being needs information for his day-to-day existence and well-being. This is because no society can grow beyond its level of information awareness Helen (2012).

Information is a key contributor to the development of individuals and communities. People need information to develop their potential through education and training, to succeed in their field of human endeavors and also to take control of their daily lives. To understand information need, it is necessary to understand the context of human needs that created the need for information. Information users need information for problem solving, current awareness, recreational purposes and for up-dating of their knowledge. Information need is construed in the sense of data or a set of data specially acquired that will enable the user to make an appropriate decision on any related problem facing him or her at any particular time Solomon (2002). In the same vein, Case (2009) described information need as an individual’s or group’s desire to locate and obtain information to satisfy a conscious or unconscious need. However, (Ekoja 2010) explained that information needs are the information, which information seekers requires to conduct their businesses and live their daily lives. The identification of information needs of a person will lead to the means of seeking for that information.

Seeking behaviour is important because it tells how an average citizen go about finding information that are crucial to his everyday life. It is the process in which one goes about seeking information that will meet his or her need. Information seeking behaviour vary considerably from

one individual to another according to age, gender, level of education, occupation, location, culture, etc. It is very difficult, if not impossible to identify common information seeking behaviour for all people most especially in the developing regions of the world (Ekoja 2010). Information behaviour on the other hand is a sub-discipline in library and information science which explains “how people need, seek, manage, give and use information in different contexts” Savolainen (2007). The study of information seeking behaviour tends to incorporate an awareness of all the kinds of information a person seeks. People get information not just from paper sources, people, but also from the physical layout of their workspaces, from the design, content, informational genres, and above all, from the interaction of these various factors in a real situation Salman, Ahmed & Khan (2013).

Information needs and seeking behaviour of communal frontline health workers involves the CFHW access to timeline information irrespective of geographic location, access to good roads, pipe borne waters and medical facilities. In this context it involves poor rural dwellers which consist mostly of illiterate, subsistence farmers and artisans, whose demographic disposition is composed of older people than the young ones. They live in poor and deprived conditions due to lack of these basic necessities of life Aniogbolu (2010).

Qualified health care professionals (HCPs) have vital roles in achieving health goals of a given state (Walsh & Bukachi 2009; Yasnoff et al 2000). Updating knowledge with relevant information is very crucial for health care professionals to deliver quality and sustainable health care services to their patients (Walsh & Bukachi 2009; Ghebre 2005). To this end it is possible only when there is a sustainable access to health information resources (HIRs) in health facilities (Edejer 2000; Dubow & Chetley 2011).

Access to and use of health-related information among medical doctors, physicians, frontline workers, nurses and first responders are important in providing a high-quality health services and to solve various health issues. Norbert & Lwoga (2013) stated that in medical practices, doctors and nurses experience very specific information needs, in relation to which precision, reliability and promptness as fundamental aspects of their day-to-day duties. The need to satisfy health professionals with the right information at the right time is paramount especially in the era of Covid

19. Although aware of over 400 diseases that are regularly encountered in clinical practice, doctors and nurses in the Nigerian scenario may not have the complete knowledge of uncommon diseases such as the Novel Coronavirus code named COVID 19 Omosekejimi et al (2020).

Last few months have seen the emergence of an unusual Corona virus flu pandemic starting in China and then spreading like wildfire all around the globe. This virus has never been detected in humans earlier and therefore it is considered as one of the most dangerous viruses transmitted from animals to humans Zhao & Liang (2004), spreading all over the world in a drastic manner. Consequently, frontline health workers are now thrown into frenzy on this emerging deadly virus, as a result Majority of this CFHW's needed information in order to update their knowledge base and cater for COVID 19 patients. Most of these patients are people with pre-existing health ailments like Malaria, Typhoid, Fever, Cholera, TB and HIV/AIDS etc which will make administering drugs difficult without the necessary test and Nigeria as a developing country do not have some of this test kit readily available because of the harsh economic realities facing us as a nation. In the midst of this barrage of information explosion on COVID 19, CFHW are now weary of Infodemic. As a result of the incessant flooding of information all over the internet on COVID 19.

WHO (2021) stated that "Infodemic" includes false or misleading information in digital and physical environments during a disease outbreak. It causes confusion and risk-taking behaviors that can harm our health. Similarly, Oxford English Dictionary (2019) sees Infodemic as an excessive amount of information about a problem that is typically unreliable, spreads rapidly, and makes a solution more difficult to achieve. This depicts the constant barrage of unsolicited information generated by governments, NCDC, researchers, news outlets, and the lay public. For example, the deluge of published peer-reviewed articles, preprints, and other forms of grey literature related to COVID 19 has been astounding, a simple search will automatically throw you into a frenzy.

## **Objectives**

The following are the objectives of this study:

1. Find out the Information needs of Communal Frontline Health Workers.
2. Access the Preferred Information Destination Sources of CFHW.

3. Examine challenges to Information needs and Information Seeking Behaviour of CFHW.

### **RESEARCH QUESTIONS**

The following research questions were formulated to guide this study:

1. What are the Information needs of Communal Frontline Health Workers.?
2. What are the Preferred Information Destination Sources of CFHW.?
3. What are the challenges to Information needs and Information Seeking Behaviour of CFHW.?

### **Literature Review**

Okiy (2014) defined library as a collection or group of collections of books and other materials organized and maintained for use, reading, consultation, study and research. In order to satisfy the informational needs of its users Gama (2013), noted that the university library has to ensure adequate provision of actual information, services and facilities. CFHW need information for various purposes. They need health information to enable them perform their job effectively. Health information need is essential for the CFHW to deliver their jobs effectively and efficiently. They need information on surgical operations to enhance surgical procedures, they need information on current trends in their profession and also to keep abreast of any changes in their professional practice. They also need information on medication, relevant database, drug therapy and diagnosis.

### **Information needs and Seeking behaviour of physicians and nurses**

To manage their patients, physicians use information, which may come from memory, updated or out of date materials Smith (1996). In a study by Gonzalez et al (2007) primary care physicians only try to find an answer to 23% of questions, and of those questions they did attempt to answer, they were successful in finding an answer 86% of the time. The low percentage for seeking answers to questions may be due to time and workflow limitation during patient visits for these physicians. In a survey result by (Morrison & Smith 2000) physicians believed that spending more time with their patient is effective in improving patient care, and they were not satisfied with the limited time available for patient consultations. According to (WHO 2006) report, 20-57 countries face severe shortages in their healthcare workforce. WHO estimates that there is a global shortage of approximately 4.3 million health professionals required for delivering essential healthcare services to populations in need of health care during this pandemic. This is reaffirmed by Healthcare Reform (2011) which posited that the increase in patients, and the shortage of primary care

providers, time with patients is gradually decreasing. To resolve this issue, identifying physician and nurse information needs and seeking behaviors may assist with integrating the appropriate resources within each clinician's workflow. The role of health information technology in clinical practice is growing very well during this Covid period. More physicians are using electronic health records which are 'patient records of health information to provide health care delivery services especially to communities ravaged with this COVID-19. Sometimes a physician may want to review the record of a patient visit in a very detailed way, and other times, physicians desire a quick snapshot of what happened. Lack of usability considerations, such as ease of use and usefulness in the design of Electronic Health Records systems creates potential human-computer interaction issues, including increased workflow complexity that may result in loss of productivity and decreased quality of patient care Smelcer et al (2009). In summary, electronic health care seems to be the gateway to providing quick and effective care services in the midst of this coronavirus pandemic.

### **Information Overload**

There are many sources of information available today for communal frontline health workers to find answers to their patient-related questions which may cause information overload. Bawden et al (1999), suggest that 'information overload occurs when information received becomes more of a hindrance rather than a help. Similarly, Zeng et al (2002), attribute information overload to increasing amounts of patient data, which overload are as follows failing to process some of the inputs, processing information incorrectly, delaying the processing of information, accepting lower-quality information and giving up the search for needed information. To present each clinician with information accordingly in this pandemic season, it is important to assess their information requirements as the clinical environment moves towards a paperless setting and information becomes more accessible through many electronic sources. Therefore, presenting information in a manner that suits the needs of physicians and nurses has been an ongoing study among researchers, with the physician group being the most frequently researched Cimino (2006).

### **METHODOLOGY**

The study adopted a quantitative method of data collection. Items used for this work were taken from previous researches (Abubakar 2011, Helen 2012 & Nworgu 2006). This study was

conducted between 2020 and 2021 in the urban, sub-urban and rural settings of Anambra Central, Anambra South and Anambra North. The population of Anambra State is 5.5 million with Onitsha the most densely populated area in this region of southeastern Nigeria bearing  $\frac{1}{3}$  of the total population for this study. The study predominates with Christian and minor Jewish faith-based groups, ethnicity comprised of Igbo. The population of the study comprises of medical doctors, Nurses, auxiliary Nurses, first responders, frontline health workers and community health workers. During the peak of the COVID 19 pandemic in Nigeria, the government of Anambra State directed all LGA chairman in the state, Primary health care facility directors to set up an isolation center. Cases that were beyond the expertise of the health workers were sent to Awka the capital city of Anambra State or airlifted to isolation centers in Lagos or Kano.

It is worthy to note that the authors purposively selected and visited the sampled health facilities across the three senatorial district that make up Anambra State to obtain permission and support for the project from the administrators. At our request, each hospitals, clinics and primary health care gave us a timeline of activities, schedules and interview dates so that our investigating team can plan the logistics of the project, including the recruitment of CFHW, dates, content, and venue of the interview. We designed and produced a leaflet introducing ourselves to the respondents and our purpose for eliciting information from them. An Information Needs and Seeking Behaviour of Communal Frontline Health Workers (CFHW) activity form containing the name of the respondent, hospital/clinics, gender, designation and date of activity including a printed sheet of paper distributed by hand containing relevant questionnaire were given to the respondent to fill and submit immediately. Data from the CFHW activity forms were collated, summarized, and presented using simple percentages.

## Findings and Discussions

**Table 1:** Demographic profile of communal frontline health workers (CFHW) in Anambra State.

| No. | Demographic Variables   | Frequency | Percentage |
|-----|-------------------------|-----------|------------|
| 1.  | <b>Type of hospital</b> |           |            |
|     | Public                  | 103       | 76%        |
|     | private                 | 33        | 24%        |

|    |                           |            |            |
|----|---------------------------|------------|------------|
| 2. | <b>Gender</b>             |            |            |
|    | Male                      | 71         | 52%        |
|    | Female                    | 65         | 48%        |
| 3. | <b>Age</b>                |            |            |
|    | 27 – 40                   | 31 (1)     | 23%        |
|    | 41 -50                    | 53 (2)     | 39%        |
|    | 51 – 60                   | 29 (3)     | 21%        |
|    | 61 and above.             | 23 (4)     | 17%        |
| 4. | <b>Designation</b>        |            |            |
|    | Medical doctor.           | 15         | 11%        |
|    | Nurse.                    | 35         | 26%        |
|    | Auxiliary Nurse.          | 20         | 15%        |
|    | First responder.          | 13         | 10%        |
|    | Frontline health worker.  | 25         | 18%        |
|    | Community health worker.  | 28         | 20%        |
| 5. | <b>Working Experience</b> |            |            |
|    | 1 – 5yrs                  | 31         | 23%        |
|    | 6 – 10yrs                 | 82         | 60%        |
|    | 11 and above              | 23         | 17%        |
| 6. | Religion                  |            |            |
|    | <b>Christianity</b>       | <b>126</b> | <b>93%</b> |
|    | <b>Judaism</b>            | <b>10</b>  | <b>7%</b>  |

A total of 103 health workers were randomly selected from public hospitals which includes primary health centers and clinics, while 33 private hospitals were selected for the study (*Table I*). The mean professional designations of the health workers were 3.6 (standard deviation 1.7). There were more male (52%) than their female counterparts which is (48%). The Table also indicates that 23% of the respondents are between the age of 27 - 40, 39% are between 41 - 50,

21% are between 51 - 60, while 17% are 61 years and above. The religious status of the respondents as detailed in the table reveals that, out of the 136 respondents, 93% of them are Christians while 7% practice Judaism. For job descriptions of the respondents, 15 out of the 136 respondents are medical doctors, 35 nurses, 20 auxiliary nurses, 13 first responders, 25 frontline health workers and 28 community health workers. As for the working experience, statistics as shown in the Table, indicates that 60% of them have worked in medical or health institution for a period of 6 -10 years, 23% have worked in health institution between 1 - 5 years, while 17% have 11 years and above working experience, clearly these are individuals between the age range of 61 years and above.

**Table 2:** Information needs of CFHW.

| Statement                 | Frequency | Percentage |
|---------------------------|-----------|------------|
| <b>Drugs</b>              |           |            |
| Yes                       | 93        | 68%        |
| NO                        | 43        | 32%        |
| Total                     | 136       | 100%       |
| <b>COVID Vaccine</b>      |           |            |
| Yes                       | 105       | 77%        |
| No                        | 31        | 23%        |
| Total                     | 136       | 100%       |
| <b>Pandemic Outbreak</b>  |           |            |
| Yes                       | 104       | 76%        |
| No                        | 32        | 24%        |
| Total                     | 136       | 100%       |
| <b>Patient Management</b> |           |            |
| Yes                       | 120       | 88%        |
| No                        | 16        | 12%        |
| Total                     | 136       | 100%       |

|               |     |      |
|---------------|-----|------|
| Diagnosis     |     |      |
| Yes           | 82  | 60%  |
| No            | 54  | 40%  |
| Total         | 136 | 100% |
| Child Care    |     |      |
| Yes           | 96  | 71%  |
| No            | 40  | 29%  |
| Total         | 136 | 100% |
| Nutrition     |     |      |
| Yes           | 72  | 53%  |
| No            | 64  | 47%  |
| Total         | 136 | 100% |
| Personal Dev. |     |      |
| Yes           | 103 | 76%  |
| No            | 33  | 24%  |
| Total         | 136 | 100% |

*From table 2 above*, the first goal of this literature analysis was to determine the information need of CFHW. We observed that CFHW places so much emphasis on patient management, vaccine and pandemic outbreak as their major information needs. This, is expected because of the recent global cum national health emergencies arising from the coronavirus pandemic. From the data above it is obvious that medical doctors, nurses, frontline workers and communal health workers needed information on how to tackle this pandemic, this is in consonance with Anyanwu et al (2016). The literature also suggests an increased approval rating in the numbers of CFHW information needs on patient management while still keeping abreast with their personal development this can be seen in the numbers of literature they have read, seminars and symposium attendance. In seeking information for drugs, due to the increase in health-related problems like COVID 19, HIV-AIDS, tuberculosis, fever and malaria the CFHW responses stated that diagnosis

and treatment information are common information needs, because it is one of the main job descriptions of health workers while, nurses carry out the treatment instructions of the physicians. In a study with 76 primary care nurses, prescription decisions were important information need Randell et al (2009), this is in agreement with the present study because one major way of ensuring adverse drug effects do not occur to patients is nurses following the laid down treatment instructions from the physicians. The above, according to the health workers will assist in diagnostic and therapeutic decision-making. Common information needs include nutrition and child care support. The latter seeks and craves for our humanitarian support because of the exponential increase in out of school children keeping Nigeria in an uncomfortable position in the numbers of out of school children according to (UNICEF 2012).

**Table 3:** Preferred Information Destination Sources of CFHW.

| Statement | Frequency | Percentage |
|-----------|-----------|------------|
| Textbooks |           |            |
| Yes       | 115       | 85%        |
| No        | 21        | 15%        |
| Total     | 136       | 100%       |
| Library   |           |            |
| Yes       | 80        | 59%        |
| No        | 56        | 41%        |
| Total     | 136       | 100%       |
| Journals  |           |            |
| Yes       | 68        | 50%        |
| No        | 68        | 50%        |
| Total     | 136       | 100%       |

|                 |     |      |
|-----------------|-----|------|
| NCDC            |     |      |
| Yes             | 61  | 45%  |
| No              | 75  | 55%  |
| Total           | 136 | 100% |
| Internet        |     |      |
| Yes             | 109 | 80%  |
| No              | 27  | 20%  |
| Total           | 136 | 100% |
| Medical Records |     |      |
| Yes             | 125 | 92%  |
| No              | 11  | 8%   |
| Total           | 136 | 100% |
| PubMed          |     |      |
| Yes             | 103 | 76%  |
| No              | 33  | 24%  |
| Total           | 136 | 100% |
| HINARI          |     |      |
| Yes             | 98  | 72%  |
| No              | 38  | 28%  |
| Total           | 136 | 100% |
| Colleagues      |     |      |
| Yes             | 105 | 77%  |
| No              | 31  | 23%  |
| Total           | 136 | 100% |

**Table 3** discovered that CFHW major sources of information are medical records, textbooks and internet. This according to the respondent is because patient medical records is readily available and they can use their smart phones to access the internet and seek out the destined information source. Some were of the opinion that the textbooks are the major information source because it can be gotten from their various homes or from colleagues. Similarly, Mandu et al (2020) stated that the source of information that nurses, doctors and health workers consulted are internet, medical record and Books. Although informal, colleagues were a common source possibly because of the quickness and ease of gaining information from other doctors, nurses, auxiliary nurses etc. It was not surprising that the most unpopular sources of information as reported by the CFHW is National Center for Disease Control and Journals. The NCDC according to them sends unsolicited messages, emails, notifications etc that are extremely annoying this makes it impossible for one to source for information through them. Journals the say are specialized information source, but the high cost of journals these days are making it difficult to continue purchasing it. Other preferred sources of information were found to be face-to-face communication with colleagues. The findings of the present study are consistent with results from other studies, which indicated that large proportions of health workers seek health information in their work through interpersonal communications Lemma (2009). Similarly, in a study conducted in Malawi, face-to-face communication was found to be the most preferred method of sharing knowledge and information among health workers LeMay & Bocock (2012). However, one of the studies noted that discussion with colleagues for provision of health information was poorly practiced as compared to books, protocol manuals, training sessions and the Internet Andualem et al (2013). The possible reasons for preferring colleagues in the present study might be due to the fact that face-to-face communication offers a rich means of information sharing, provides personal attention, clarifies doubts and gives on-the-spot feedback to the respondents.

**Table 4:** Challenges to Information needs and Information Seeking Behaviour of CFHW.

| Statement             | Frequency | Percentage |
|-----------------------|-----------|------------|
| Information Explosion |           |            |
| Yes                   | 121       | 89%        |
| No                    | 15        | 11%        |

|  |     |      |
|--|-----|------|
| Total                                  | 136 | 100% |
| Lack of access to relevant information |     |      |
| Yes                                    | 79  | 58%  |
| No                                     | 57  | 42%  |
| Total                                  | 136 | 100% |
| Technical Languages                    |     |      |
| Yes                                    | 84  | 62%  |
| No                                     | 52  | 38%  |
| Total                                  | 136 | 100% |
| Inadequate Timing                      |     |      |
| Yes                                    | 68  | 50%  |
| No                                     | 68  | 50%  |
| Total                                  | 136 | 100% |
| Stress                                 |     |      |
| Yes                                    | 100 | 74%  |
| No                                     | 36  | 26%  |
| Total                                  | 136 | 100% |
| Poor health information                |     |      |
| Yes                                    | 87  | 64%  |
| No                                     | 49  | 36%  |
| Total                                  | 136 | 100% |

|                          |     |      |
|--------------------------|-----|------|
| Poor working environment |     |      |
| Yes                      | 130 | 96%  |
| No                       | 6   | 4%   |
| Total                    | 136 | 100% |

**Table 4** CFHW identified information explosion as the challenges the experienced in the cause of seeking information. This according to them is the persistent increase in the number of published works as a result you might even get lost in the myriad worlds of literature, which create a problem of selecting good works from bad works due to Infodemic WHO (2021). In a similar study Omoosejimi et al (2020) states that the major barriers to seeking and accessing COVID 19 information among medical doctors are large amount of COVID 19 incredible information on the Internet. Conversely, some health workers maintained that lack of time is the major challenges the experienced in the cause of seeking information. This is in agreement with (Ely et al 2005; Swinglehurst et al 2001 & Chen et al 2006) who concluded that Physicians and nurses’ time is limited and the time required to conduct information searches’ that produce meaningful and relevant information may not be available within their clinical workflow. Another barrier to information access is the poor working environment of the health workers. Nigeria been a developing nation most of the health facilities are dilapidated as one community health workers puts it our primary health care facilities are in shambles and needs urgent government intervention. That’s the ugly realities as a health worker in Anambra state. This is corroborated by Chetley (2006) who noted that health facilities in developing countries are in disarray leading to high rates of diseases. The current study also indicates that health workers encounter information gaps on various types of health information. This is supported by different studies performed among health care providers in developing countries (Chetley 2006 & Lemma 2009). Challenges to accessing information in the present study includes lack of access to relevant information, inadequate timing and stress, are similar to those found by studies in Uganda, Malawi and India (Anwar & Shamim 2011; Musoke 2000; LeMay & Boccock 2012; Kapadia-Kundu et al 2012). The studies, concludes that the challenges to information needs as identified by health workers were untimeliness of information, technicality of medical and health journals and poor working environment.

## **Conclusion**

Community health workers needed health care information to support their daily professional activities, both in print and non-print format. From this study it has been observed that CFHW information needs is in the areas of drugs, vaccine and patient management. Thus, their main source of information are medical records, textbooks, face-to-face communication and the internet. CFHW have many questions related to their patient during patient encounters and their most common information needs in a clinical setting are diagnosis and treatment. The internet has proven to be a popular information source, with its numerous advantages of using this information source so as its disadvantages such as inaccurate information sources and false unverified claims. Colleague recommendations on the other hand can be susceptible to misinformation that is why greater filtering of each information source is advocated. In the foregoing CFHW in developing countries are doing their utmost best in discharging their duties despite the lean resources from government and donor agencies.

## **Recommendation**

- Health literacy should as a matter of national priority be advocated at all times.
- Government at all levels should set aside funds for pandemic preparedness which will go a long way to mitigate future occurrences of pandemic.
- There should be retooling and revamping of library services to accommodate a 24 hour round the clock access to information in view of the recent global uncertainties as a result of this pandemic.
- There should be a corroborative strategic government intervention funding on promotion of health literacy.

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