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Level of awareness on dengue: A literature review

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Abstract--We conclude our review that the spread of the dengue outbreak was facilitated by the community's ignorance and sloth, as well as government authorities. People, religious scholars, leaders, and government organisations, on the other hand, were not organised to participate in dengue prevention and eradication, which raised the risk of infection in the community. For the implementation of preventative policies, the report advises organising local communities and activating local leadership with the active engagement of government and non-government groups.

Keywords---Attitude, Community, Dengue, knowledge, language, practice.

Introduction

Dengue fever is a mosquito-borne illness spread by the *Aedes* mosquito. It is a febrile sickness that affects babies, children, and adults. Dengue fever is a global disease that mostly affects tropical and subtropical climates, particularly in urban and semi-urban areas. Dengue fever has become much more common in recent decades all across the world [1].

In India, 33,320 cases and 86 deaths were reported in 2014. The National Vector-Borne Disease Control Programme (NVBDCP), which operates under the auspices of the National Rural Health Mission (NRHM), is one of India's most comprehensive and varied public health initiatives, focusing on mosquito-borne disease prevention and control. Mosquito-borne infections cause preventable illness and death, as highlighted in India's National Health Policy and Millennium Development Goals (MDGs) [2].

Methodology

Methodology Dr. Dobbin's Quick Review Guidebook Steps for Conducting a Rapid Review guided the rapid review through five steps of the evidence-informed decision making (EIDM) process. The health Evidence™ tool was used to 1) find and access relevant research evidence, 2) assess the methodological quality of research evidence, and 3) synthesize the findings [3].

Search Strategies

The key search phrases "KAP Dengue" and "Awareness Programme" were defined based on the quick review research questions and a combination of several study disciplines. The keywords and synonyms for health education, prevention, and dengue burden have been added to the search phrases. Wildcards were employed to increase the quality and unbiasedness of the search [3].

The final search string is as below

("Health Issues" or "Children under the age of five"). For systematic publication search, five databases were used: PubMed, Cochrane, Google Scholar, and Scopus library. PubMed and the Cochrane Library provided good coverage of peer-reviewed articles, but Google Scholar and Scopus were added to provide a broader coverage of the grey literature due to the scarcity of publications on health concerns affecting children under the age of five. The literature search was complemented with a snowball search to track down references of reference for review publications [3].

Eligibility criteria

The literature search was limited to English-language publications and covered Knowledge, Attitudes, and Practices (KAP) in Dengue, theses, and review papers published before February 2022; studies conducted in developing countries based on the World Bank check-list; and studies conducted in developing countries based on the World Bank check-list. Data was extracted from publications that

detail the evolution of the conceptual framework for health concerns, policy development, and determinants of utilisation, issues, and challenges [3].

Data extraction

The articles were reviewed by two impartial reviewers from the university fraternity to guarantee that the selection was not biased. On the finished list of publications for additional data extraction, both reviewers have established an eighty-percent agreement. Because the investigations were conducted by a variety of field experts, there was a lack of consistency in the methodology. The level of evidence [4] was used to grade the quality.

Results of the literature search

Non-related articles were filtered based on their non-English language, title, abstract, and chapter of a book, and a total of 482 articles were reduced to potentially relevant articles of 83 articles after the preliminary screening procedure. According to the inclusion criteria, 83 studies from developing and developed countries were included in the final data extraction (Figure 1: Health Evidence™ tools: Literature search results) [4].

Inclusion criteria

Original Dengue-related articles met the requirements for inclusion.

Exclusion criteria

Studies that used numerous therapies (multiple intervention studies), nontribal studies, and effectiveness studies were all ruled out. Abstracts, conference posters, short communications, and letters to the editor, as well as studies with insufficient community efficacy and surveillance data or evaluations.

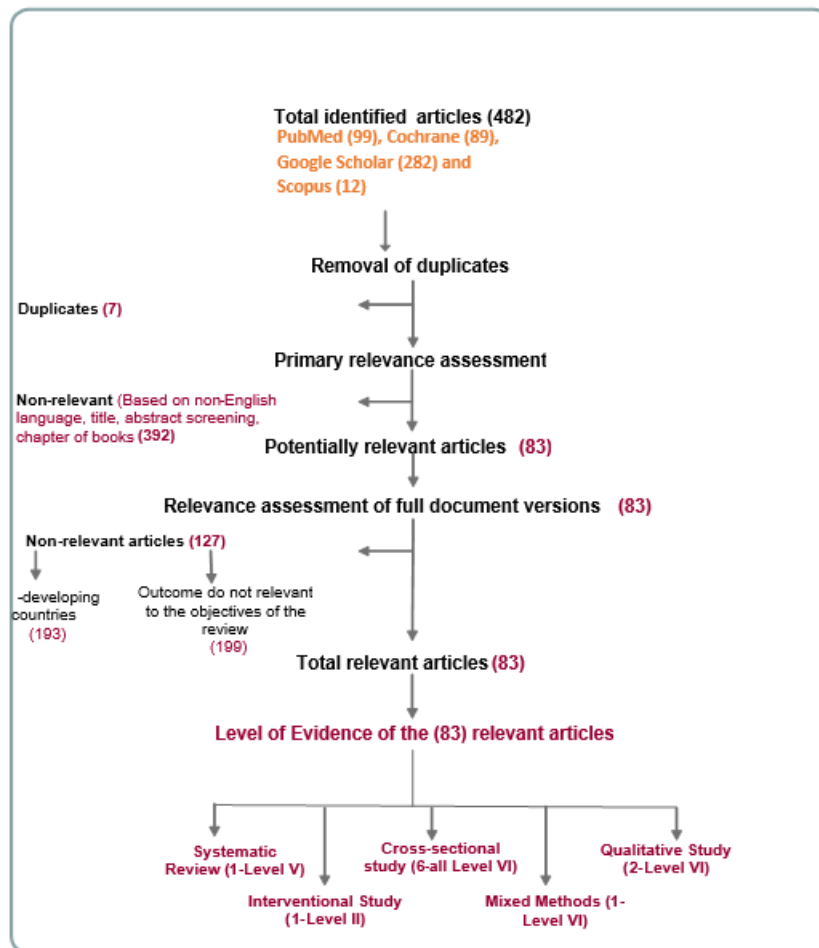


Figure 1: Health Evidence™ tools: Literature search results [4]

Result & Discussion

According to a study on knowledge, attitude, and practise about dengue and chikungunya in secondary school children in a city in north India in 2016, 96 percent and 71 percent of secondary school children in a city in north India in 2016, respectively. According to 43% of children, female mosquito bites spread diseases. Only 21% understood that they were caused by the Aedes mosquito. According to 47 percent of those polled, it breeds in clean, stagnant water, and it bites throughout the day. Only 50-60% of youngsters took personal precautions against mosquito bites and looked for mosquito breeding. Preventing these diseases should be taught in schools, according to 95% of children [5].

In 2015, a community-based, cross-sectional study in Kalaburagi, Karnataka, found that the majority of the 247 people tested recognised that malaria is transmitted by mosquito, followed by 68 (27.53 percent) filarial, 22 (8.591

percent) dengue, and 37 (14.98 percent) Chikungunya. Unclean stagnant water was identified as a mosquito breeding ground by 85.02 percent of those polled. In terms of knowledge sources, television accounted for the majority of 153 (61.94 percent), while health care providers accounted for 135 (54.66 percent) [6].

More than 90.0 percent of respondent household heads had correct knowledge of fever, headache, and joint pain as common signs and symptoms of dengue fever, according to a community-based, cross-sectional KAP study conducted in the urban area of Taiz, a hinterland governorate in Yemen's southwest, in 2015. Furthermore, more than 80.0 percent of respondents thought dengue fever was associated with muscular discomfort and bleeding; however, only 65.0 percent of respondents thought dengue fever was associated with skin rash. More than 95.0 percent of respondents agreed that dengue fever is harmful and may be transmitted, yet 15.0 percent of respondents had unfavourable attitudes towards the fact that they are at risk of the disease and that the sickness is preventable. Despite the responder population's high level of knowledge and attitudes, poor preventative measures were widespread. In bivariate analysis, inadequate understanding of dengue signs and symptoms (OR = 2.1, 95 percent CI = 1.24–3.68; $p = 0.005$), as well as its vector (OR = 2.1, 95 percent CI = 1.14–3.84; $p = 0.016$), were found to be variables significantly linked with poor preventative behavior. In contrast, multivariable analysis revealed that low vector awareness is an independent predictor of poor population preventive measures (adjusted OR = 2.1, 95 percent CI = 1.14–3.84; $p = 0.018$) [7].

In a cross-sectional study on knowledge, attitude, and practise about dengue fever conducted in Gomal in 2015, it was discovered that among 100 respondents, 32% were males and 68 percent were females, 14 percent were illiterate, 32% attended school, 24% college, 30% university, 38%, 40%, and 22% belonged to the poor, middle-, and high-income groups, respectively. Dengue disease knowledge was 60% overall, positive attitudes were 92%, and overall performance was 90%. In 48 percent of cases, participants were educated until primary school, and in 24.8 percent of cases, they were educated until secondary school [8].

A cross-sectional survey conducted in Makkah in 2015 revealed that students' knowledge of DF was lacking, with 59 percent, 32.7 percent, and 8.3 percent of pupils receiving poor, fair, and satisfactory marks, respectively. The biggest predictor of getting a high knowledge score was having heard about DF (t test = 4.47, p 0.001). Female gender (t test = 5.81, p 0.001) was followed by a positive family history of DF (t test = 3.18, p 0.01). The only factor that had a significant impact on the self-reported practise scores was the participants' level of disease knowledge (t test = 3.16, p 0.01). [9].

Another community-based cross-sectional study done in Kannamangala village in 2014 revealed that dengue fever knowledge and behaviour were inadequate. Dengue fever is a serious condition, according to 60% of those polled, and it is transmitted by mosquito bites, according to 68.8% of those polled. Only 8% of those polled understood the name of the vector. Only 15.3% of participants changed the water in artificial containers once a week, while 49.2% got their news

from radio/TV, followed by newspapers and magazines. Only 15.4 percent of those polled said they got information from doctors or nurses [10].

A community-based cross-sectional study conducted in 2013 in six selected villages, three in Mewat and three in Rohtak district, found that 52 percent of respondents in Rohtak and 42.68 percent of respondents in Mewat believe malaria is transmitted by mosquito bite, with the level of education being directly correlated. High fever, chills, and bodily aches were identified as the most common signs and symptoms of malaria. The main source of information concerning mosquito-borne diseases is television, which is followed by friends and relatives, as well as healthcare providers. Overall, 76.2 percent of people in both survey locations said malaria is a severe problem in their area, but only 46.3 percent were aware of government-sponsored malaria prevention and treatment programmes. Mosquito nets, mosquito coils, and repellents were regularly utilised as protective practises by respondents, although no significant differences were detected in both study locations [11], except for mosquito nets ($p < 0.05$).

According to a community-based cross-sectional survey done in Bangalore's urban and rural districts in 2013, health workers were the primary source of information in rural areas. The mosquito transmits dengue fever, according to 85 percent of rural residents and 59 percent of city dwellers. The majority of study participants were aware that high fever, myalgia, and headache are common presenting symptoms, but only 12% of rural and 2% of urban participants were aware of dengue bleeding symptoms, and only 44 percent of rural and 9.6% of urban participants were aware that the dengue mosquito bites during the day. Mosquitoes breed in clean water containers, according to 40% of rural residents and only 5% of city dwellers. Mosquito coils were the most commonly used self-protective method (75 percent rural, 68 percent urban), followed by mosquito nets (62 percent rural, 63 percent urban) [12].

Another cross-sectional study done in five districts of central Nepal in 2012 revealed that 77 percent of respondents had heard of dengue fever (DF). Only 12% of the participants had a thorough understanding of DF. The lowlanders were five times more likely than the highlanders to have good knowledge ($p < 0.001$). Despite their lack of understanding, 83 percent of respondents had a positive attitude, and 37 percent reported good practise. They discovered a substantial positive connection ($p < 0.001$) between knowledge, attitude, and practise. Among the socio-demographic variables, the participants' education level was an independent predictor of practise level ($p < 0.05$), while the participants' education level and the interaction between their sex and age group were independent predictors of attitude level ($p < 0.05$). [13].

In a cross-sectional study conducted in Mangalore in 2012, it was discovered that data was acquired by interviewing any adult in each household. Mosquitoes spread diseases, according to 136 people (90.7 percent). There were 14 (9.3%) people who were unaware of any possible breeding sources. Only 96 (64%) of the households used integrated vector control systems. The median cost of permanent mosquito bite prevention methods was higher in cities ($p = 0.011$), whereas the percentage of total family income spent on temporary protection methods was higher in semi-urban areas ($p = 0.001$) and among low-income

families ($p = 0.001$). Mosquito breeding habitats such as open wells ($p = 0.026$) and open drains ($p = 0.001$) were more common in semi-urban settings. Spraying activities were ineffective in semi-urban families ($p = 0.02$) [14].

In a cross-sectional study conducted in Sindh in 2012, 94.6 percent of participants (43.3 percent male and 56.7 percent female, p -value 0.03) had heard of dengue, with gender differences (37.5 percent male vs. 62.5 percent females, p -value 0.001). 58.6 percent of participants reported "Aedes mosquito" as a vector of dengue virus, with gender differences (37.5 percent male vs. 62.5 percent females, p -value 0.001). 54.8 percent of pupils described the Aedes mosquito as "a little dark mosquito with white stripes on its legs." The Aedes mosquito breeds in "stagnant clean water," according to 47.6% (male 40.2 percent vs female 59.8%, p -value 0.003), and bites at "dusk," according to 44.7 percent, and at "dawn," according to 51 percent. "Prolonged high fever" was reported by 52.6 percent, "muscular discomfort" by 39.6 percent (p -value 0.009), "bleeding" by 41.3 percent (p -value 0.001), and "headache, nausea, and vomiting" by 44.7 percent (p -value 0.001) among dengue fever symptoms [15].

Conclusion

Dengue prevention and management require health education programmes. According to our findings, more attention is needed to put interventional knowledge into practise.

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Conflicts of Interest: There are no conflicts of interest declared by the authors.

Ethics approval and consent to participate

This evaluation does not require ethical approval because no patient data will be collected. Plagiarism, confidentiality, malfeasance, data falsification and/or falsification, double publishing and/or submission, and duplication are among the ethical problems examined in this study.

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