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Harmful Aspects of Quackery Practices Concerning Dengue Fever Prevalence among Inhabitants in Sindh Pakistan

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Abstract

Background: In this report the Directorate of anti-quackery of the Sindh Healthcare Commission (DAQ-SHCC), Pakistan aims to resonate with the community the impact of inadequate knowledge of illegitimate medical practitioners and the palliative measures taken by them to cure probable dengue patients in the beginning at the onset of fever and the large dosage of analgesics (nonsteroidal anti-inflammatory agents) being prescribed and running no diagnostic test may lead to potentially dangerous hemorrhagic fever and shock syndrome which can cause an increase in the fatality rate. Dengue fever has recently swept the entire Pakistan and put the state on high alert. From July 2019 to November 2019 (as of 12th November) a record has set that seems to cross 47,120 dengue fever cases together with 75 casualties. While 12,053 (25.57%) cases have only been reported from Sindh, which is the highest number reported among all the provinces of Pakistan. We have therefore been dynamically involved in exploring the role of quacks in the prevalence of dengue infection across Sindh.

Materials and Methods: A quasi experimental study regarding dengue fever and its prevalence prompted by quackery's burgeoning, have been carried out by the DAQ-SHCC head office located in Karachi, Pakistan. For this purpose, the DAQ-SHCC inspection teams were deliberated to conduct dengue knowledge and management-based interviews in all the divisions of Sindh; Karachi, Hyderabad, Sukkur, Shaheed Benazirabad, Mirpurkhas and Larkana, with two hundred and twenty identified quacks about their malpractices and especially the analgesics those were being prescribed to the probable dengue infected people.

Results: Two hundred and twenty identified quacks were probed for their malpractices to the probable dengue patients in the different divisions of Sindh. Of the total, 33.33% (40) were only interviewed from Karachi division, while 13.33% (16) from Sukkur division, 9.99% (12) from Larkana, 9.99% (12) from Mirpur Khas, 16.65% (20) from Shaheed Benazirabad and 16.65% (20) from Hyderabad division. It was observed that quacks were not even aware of the warning signs of dengue hemorrhagic fever and dengue shock syndrome and that leucopenia is a diagnostic criterion for dengue fever while thrombocytopenia is a criterion for diagnosing Dengue hemorrhagic fever.

Conclusion: The results presented in this study showed that the quack's knowledge about preventive measures of dengue and desired screening tests is significantly lower.

Keywords: Dengue hemorrhagic fever • Dengue shock syndrome • Thrombocytopenia • Risk factors • Role of quacks • Sindh-Pakistan

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Introduction

Dengue is an acute mosquito-borne viral infection that is transmitted to humans by infective bite of *Aedes Aegypti/albopictus* mosquitoes [1]. Severe forms of dengue include Dengue Hemorrhagic Fever (DHF) with plasma leakage that may lead to hypovolemic shock (Dengue Shock Syndrome, DSS) that is fatal [2]. The symptoms related to dengue was first reported in Chinese medical encyclopedia in 992 AD, though it was originally published by the chin dynasty before 265-420 AD. The disease was called 'water poison' and it was associated with flying insects. Global estimates of the dengue fever have reached 100 million, while half a million cases of DHF occurs annually. Among these 90% DHF subjects are teenagers. Approximately 50% world's population live in dengue endemic countries. The first outbreak of dengue fever in the province of Baluchistan-Pakistan was in 1960. The total reported dengue fever cases between 1960-1980 were only 12 but a sudden rise in cases and the annual epidemic trend first occurred in Karachi in 1994 and a major dengue outbreak reported in 2011 when about 27,000 peoples were affected by mosquito-borne disease. From July 2019 to November 2019 (as of 12th November), a new record has set that seems to be crossing 47,120 including 75 deaths and 12,053 (25.57%) cases has only been reported from the province of Sindh, which is the highest number reported among all the provinces of Pakistan. An effective, safe and affordable dengue vaccine or antiviral treatment has not so far been available in the market. According to WHO, Dengvaxia® (CYD-TDV) is the first dengue vaccine to be licensed [3].

Our concern here is to report:

- Various aspects of palliative measures taken by the quacks in the beginning at the onset of fever that may lead to an increase in the fatality rate,
- Propose safety measures for general public not to approach informal health service provider (quack) but sentinel hospitals.

We have therefore dynamically involved in exploring the role of quacks in prevalence of dengue across Sindh. The quacks were found to be prescribing a large dosage of analgesics, which can prove fatal because of the tendency of dengue viruses to cause internal bleeding complications such as gastrointestinal bleeding, gingival bleeding, epistaxis, menorrhagia and hematuria. Prescribing medication after medication, running no diagnostic test and having an inadequate knowledge of how they react with each other is a major red flag. According to Sindh healthcare commission Act 2013, an individual is designated as a quack according to the standards set in section 2 (xxix). Reports suggest that there are over 0.6 million quacks in Pakistan [4]. The Directorate of Anti-Quackery-Sindh Healthcare Commission (DAQ-SHCC) has been continually operating to curb the menace of quackery across Sindh. More than 2,918 quackery outlets have >so far been sealed by the DAQ-SHCC and >827 warning notices have been issued to the health care establishments and the medical practitioners to improve infection control and meet other requirements [5].

Materials and Methods

An interventional dengue fever study with their quackery-induced prevalence, have been carried out by the DAQ-SHCC head office located in Karachi, Pakistan to manifest the general public on how the medical malpractices and the delay of desired clinical treatment may critically endanger human lives and may also lead to fatality [6].

For this purpose, DAQ-SHCC inspection teams were deliberated to conduct dengue knowledge and management-based interviews in all the divisions of Sindh; Karachi, Hyderabad, Sukkur, Shaheed Benazirabad, Mirpurkhas and Larkana, with two hundred and twenty identified quacks about their malpractices and especially the analgesics those were being prescribed. Qualified physicians were also interviewed from the randomly selected ten clusters of public and private health care establishments located in different urban, semi-urban and rural areas of Sindh to design a concise and easy-to-read clinical guideline summary for primary health care on the diagnosis, the risks associated with palliative measures taken by quacks and management of patients with dengue fever [7].

Results and Discussion

Two hundred and twenty identified quacks were interviewed for their services being provided to the probable dengue patients in the urban, semi-urban and rural areas of Sindh, were not even aware of the warning signs of dengue hemorrhagic fever and dengue shock syndrome and that leucopenia is a diagnostic criteria for dengue fever while thrombocytopenia is a criterion for diagnosing DHF [8]. Of the total, 36.36% (80) were only interviewed from Karachi division, while 14.54% (32) from Sukkur division, 10.90% (24) from Larkana, 10.90% (24) from Mirpur Khas, 18.18% (40) from Shaheed Benazirabad and 18.18% (40) from Hyderabad division [9]. The interviews contained dengue knowledge and management-based structured questions based on literature [10]. During our studies, we observed that quacks are usually prescribing nonsteroidal anti-inflammatory agents (NSAIDs) like ibuprofen, mefenemic acid, aspirin, diclofenac sodium and ibugesic to the probable dengue patients [11]. These drugs should be avoided because prescribing these drugs can cause dangerous potential hemorrhagic complications [12]. However, paracetamol, codeine, or other agents that are non-NSAIDs are recommended that can alleviate pain and reduce fever [13]. Nearly 79% quacks were aware of the prevalence of dengue by mosquitoes while only 33% were aware of one of the correct breeding habitats of Aedes mosquito [14]. Represents quacks awareness on complications of dengue fever, typical symptoms of dengue fever, dangerous symptoms of DHF, mode of transmission of dengue, mosquito-breeding habitats and preventive measures, respectively (Tables 1-6).

No.	Complications	% of quacks awareness	% of qualified practitioner's awareness
1	Hemorrhage fever	0	92
2	Shock syndrome	0	76
3	Thrombocytopenia	0	42

Table 1. Quacks awareness on complications of dengue fever, n=220.

No.	Typical symptoms	% of quacks awareness	% of qualified practitioner's awareness
1	Fever	23	99.99
2	Headache	5	99.99
3	Severe eye pain	0	88
4	Muscle and/or bone pain	0	97
5	Rashs, Bruising, Petechiae, Purpura	1	83
6	Nausea	0	63
7	Low white cell count	0	69
8	mild nose or gum bleeding	0	51

Table 2. Quacks awareness on typical symptoms of dengue fever, n=220.

This shows that among various typical symptoms of dengue fever, quacks were barely aware of them.

No.	Dangerous symptoms	% of quacks awareness	% of qualified practitioner's awareness
1	Severe abdominal pain	0	41
2	Persistent vomiting	0	93
3	Red spots or patches on skin	11	89
4	Vomiting blood	0	64
5	Black, tarry stools	0	55
6	Drowsiness or irritability	0	43
7	Pale, cold or clammy skin	0	39
8	Difficulty breathing	0	16

Table 3. Quacks awareness on dangerous symptoms of dengue fever, n=220.

This shows that among various dangerous symptoms of dengue fever, quacks were barely aware of the red spot or rashes on skin.

No.	Mode of transmission	% of quacks awareness	% of qualified practitioner's awareness
1	Mosquitoes bite (Mosquito-to-human transmission)	79	99.99
2	Human-to-mosquito transmission	11	94
3	Blood transfusion	0	65
4	Mother-to-baby	8	79
5	Contact with infected person	0	93

Table 4. Quacks awareness on mode of transmission of dengue, n=220.

Transmission of dengue virus requires mosquitoes as vector hence the prevalence of dengue can be limited by reducing their population. This shows that 79% quacks were aware that dengue fever is spread by mosquito bite.

No.	Breeding habitats	% of quacks awareness	% of qualified practitioner's awareness
1	Artificial stagnant water	33	92
2	Drainage systems	3	24
3	Garbage pits	0	0
4	Ditch	0	16
5	Discarded tires	0	0

Table 5. Quacks awareness on mosquito-breeding habitats, n=220.

This shows that 33% quacks were aware that mosquitos also prefer stagnant water to lay their eggs.

No.	Preventive measures	% of quacks awareness	% of qualified practitioner's awareness
1	Remove stagnant water	23	99.99
2	Use door/window screens	3	98
3	Mosquito repellants	7	79
4	Avoid scents	0	0
5	Timing and clothing	3	98

Table 6. Quack's knowledge on preventive measures, n=220.

This shows that most majority of the quacks were not aware of the preventive measures against dengue fever.

Discussion

The treatment of probable dengue fever by quack increases the risk of plasma leakage leading to shock or respiratory distress, severe bleeding or organ failure (e.g., heart failure, elevated liver enzyme levels or impaired consciousness). Complementary and alternative medicine physicians also have a role to play in prevalence of dengue. They were found to be responsible for the delay of considerable time between onset of probable dengue fever and seeking remedies to cure it. The most serious but infrequent complications may include; liver damage, neurological damage, slow heart rate, low platelets, low blood pressure, dehydration and eventually death.

The most popular complementary alternative medicine observed is papaya leaf extract when such physicians were asked what would they suggest to dengue patient? Using papaya leaf extract can increase platelet levels in some patients, but people who are allergic to papain cannot use papaya leaf extract. Bitter gourd (*Momordica charantia*) and Neem (*Azadirachta indica*) extract has also been given by these physicians to their patients. But researchers caution that definitive studies are not yet available that confirms the utility of these treatments. Patients should consult their doctors before using this remedy.

Conclusion

The impact of inadequate knowledge of quacks on dengue patients has been detailed in this report. However, the consequences of the malpractices may lead to an increase in fatality rate and/or it may cause potentially dangerous hemorrhagic complications.

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Conflict of Interest

None Declared.

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