

# AWARENESS ABOUT MEDICAL APPLICATIONS OF QL-47 AMONG DENTAL STUDENTS

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## Abstract

*QL47 a Bruton Tyrosine Kinase inhibitor is a host-targeted, small molecule antiviral that inhibits steady-state viral protein expression. This small molecule broadly inhibits both viral and host protein synthesis and targets a translation step specific to eukaryotic cells and has the potential to be used as antiviral medication. The aim of the study was to assess the awareness about medical applications of QL-47 among dental students. This was a questionnaire based cross sectional type of study comprising 100 dental college students in Chennai. A self designed questionnaire with 10 questions eliciting the knowledge and awareness about QL 47 therapy among dental college students. Questionnaires were circulated through an online website survey planet. The questions explored the awareness on QL 47 therapy, indications, contra indications, mechanism of action and side effects. After the responses were received from 100 participants, data was collected and analysed. 5% were aware about QL 47 therapy. 3% were aware of the mechanism of action of QL 47 therapy. 4% were aware of the indications of QL 47 therapy. 3% were aware of the QL 47 therapy. 3% were aware of the side effects of QL 47 therapy. The awareness about QL 47 in medical applications and managing viral infections was less among dental students. Increased awareness and educational programs should be initiated to spread knowledge about QL 47 therapy.*

**Keywords:** Awareness, QL 47, dental students

## Introduction

Owing to the rapid progression of the viral pandemic COVID-19, the research pertaining to the pharmaceutical agents to treat this disease has been galvanized. All possible options in every field of health science are constantly working for discovering a cure for this disease. Hence there is a need to explore the antiviral activities of lesser known drugs, as COVID-19 is resistant to the commonly used antiviral drugs. QL47 is a drug with antiviral properties that can be explored. Originally QL 47 is an anticancer drug which is a Bruton Tyrosine

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Kinase (BTK) inhibitor hinder the chemical BTK, which is a vital piece of the B-cell receptor flagging pathway as certain B-cell leukemias and lymphomas use B-cell receptor motioning for development and endurance.(Wu et al., 2016)

QL47, a BTK inhibitor can covalently adjust Cys481. QL47 inhibits BTK kinase movement with an IC50 of 7 nM, hinders autophosphorylation of BTK on Tyr223 in cells with an EC50 of 475 nM, and restrains phosphorylation of a downstream effector PLC $\gamma$ 2 (Tyr759) with an EC50 of 318 nM. In Ramos cells QL47 induces a G1 cell cycle capture that is related with articulated corruption of BTK protein. QL47 inhibits the expansion of B-cell lymphoma malignant growth cell lines at submicromolar concentrations. These systems can adjust the viral pathways additionally and could offer a fix in overseeing COVID 19(Wu et al., 2014 ; Erlanson et al., 2016) This study was done with aim to assess the awareness about medical applications of QL-47 among dental students.

### Materials And Method

This was a questionnaire based cross sectional type of study comprising 100 dental college students in Chennai. A self designed questionnaire with 10 questions eliciting the knowledge and awareness about QL 47 therapy among dental college students. Questionnaires were circulated through an online website survey planet The questions explored the awareness on QL 47 therapy ,indications,contraindications ,mechanism of action and side effects.After the responses were received from 100 participants, data was collected and analysed.

### Results

5% were aware about QL 47 therapy (Fig.1) . 3% were aware of the mechanism of action of QL 47 therapy (Fig.2). 4% were aware of the indications of QL 47 therapy (Fig.3) . 3% were aware of the QL 47 therapy(Fig.4).3%.were aware of the side effects of QL 47 therapy (Fig.5) .

Fig 1: Awareness of QL 47 therapy

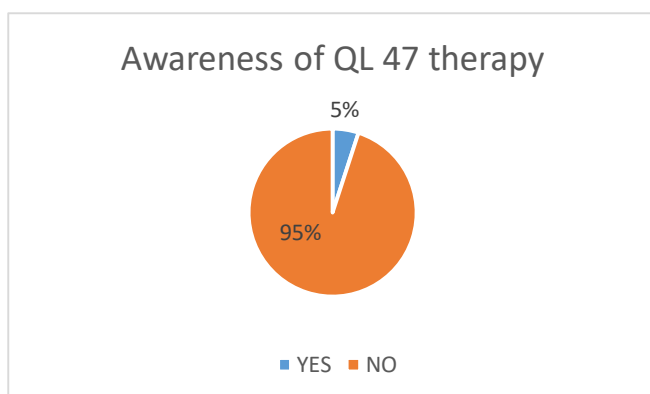


Fig 2: Awareness of mechanism of action of QL 47 therapy

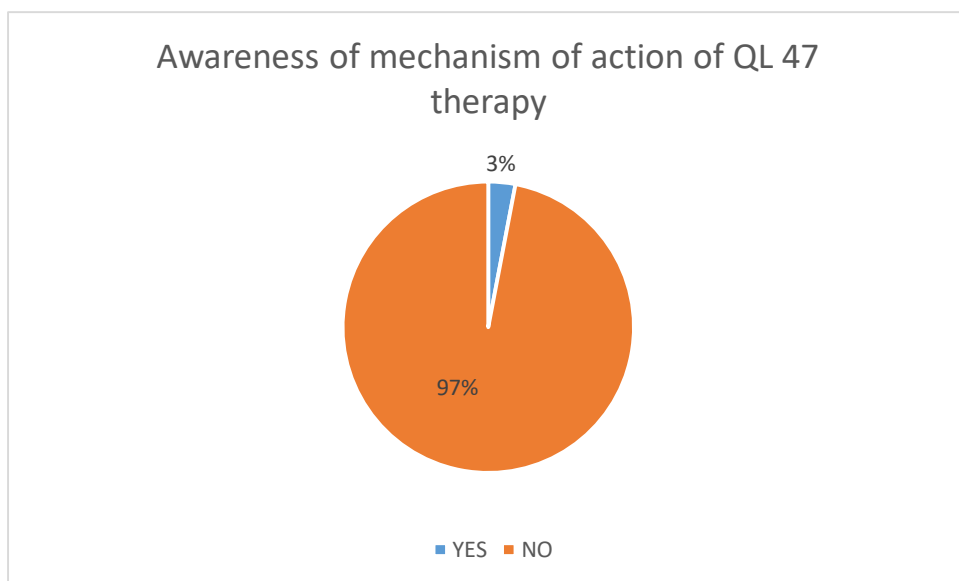


Fig 3: Awareness about the indications of QL 47 therapy

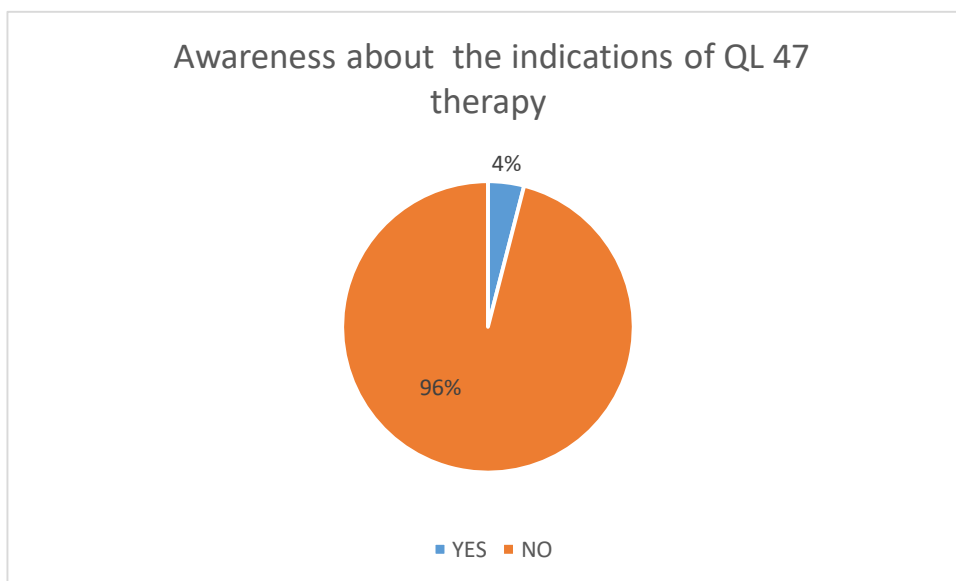


Fig 4: Awareness about the contra indications of QL 47 therapy

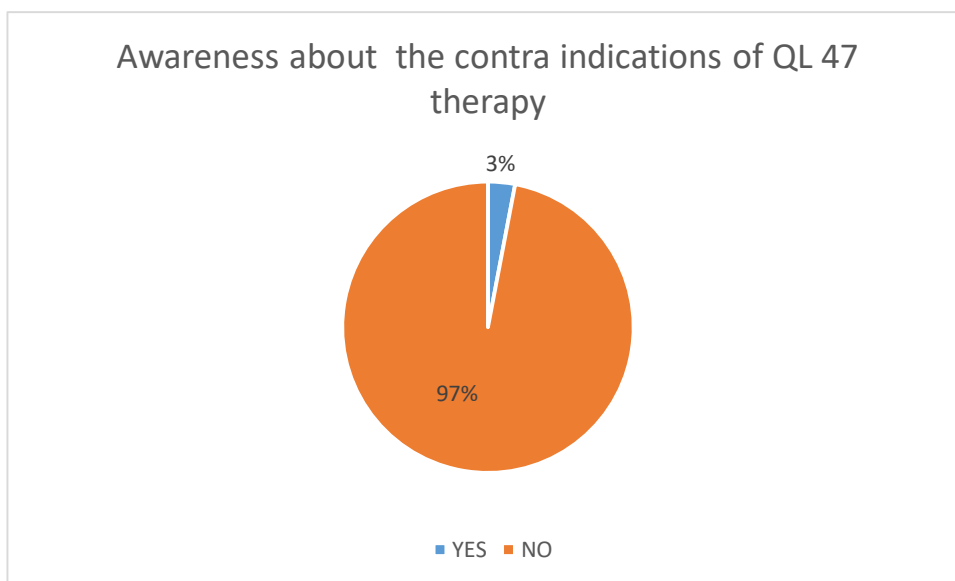
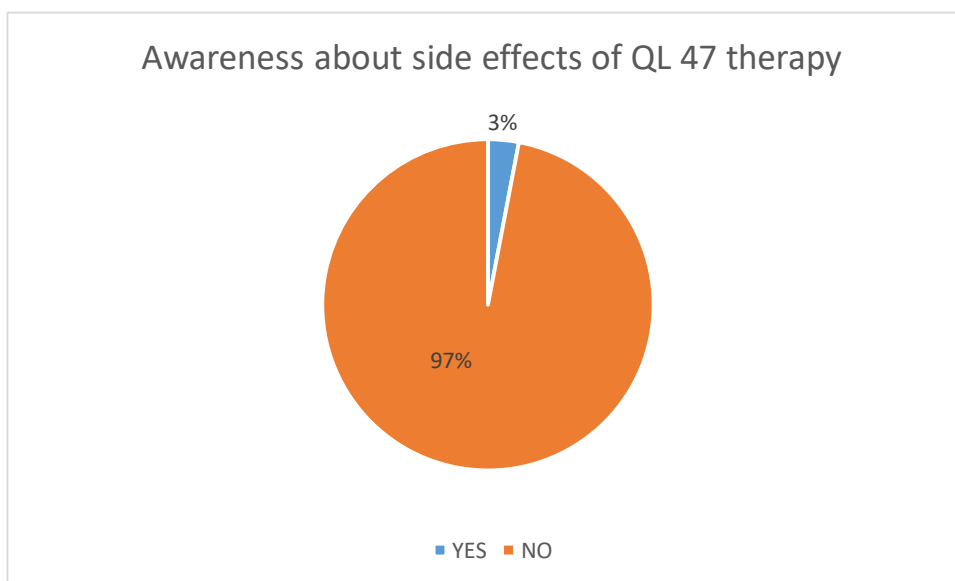


Fig 5: Awareness about side effects of QL 47 therapy



## Discussion

Wispelaere M et al, (2020) showed the expansive range antiviral movement as QL47 restrains .Flaviviruses, yet in addition a few inconsequential, restoratively applicable infections including poliovirus, Ebola infection, and human orthopneumovirus , predictable with a host-rather infection focusing on method of activity. The antiviral action of QL 47 is firmly connected with restraint of consistent state viral protein articulation .

While the sub-atomic objective of QL47 isn't known, almost certainly, this compound focuses on a host factor that is engaged with the interpretation of a particular subset of emissary RNAs, including viral RNAs (Hopkins et al., 2019; Zou et al., 2016). Liang et al sought after a correlative way to deal with recognize intensifies that target have factors that are fundamental for viral replication and opined that the expected favorable position of this methodology is that viral obstruction may develop all the more gradually in light of the fact that there is definitely not an immediate course to viral opposition emerging from transformations that square drug-official to a viral objective. (Liang et al., 2017 )

The following preferred position is that host directed antivirals may have more extensive range antiviral movement on the off chance that they target forms regularly used by various viruses. They revealed the structure-action relationship (SAR) examinations of QL-XII-47 (QL47), a compound with broad-spectrum antiviral activity against dengue infection and other RNA infections and finished up QL47 is a powerful inhibitor of viral interpretation and showed cellular antiviral activity at 35-overlay lower fixations comparative with hindrance of host-cell proliferation. (Liang et al., 2017; Ahammad et al., 2019)

QL47 can repress protein neosynthesis started by both sanctioned top driven and non-accepted commencement procedures, no doubt by focusing on an early advance in interpretation stretching (Hu et al., 2019). In this manner QL47 as another little particle inhibitor can be used to test the eukaryotic interpretation apparatus, and that can be additionally evolved as another helpful specialist for rewarding a few viral infections. (Wispelaere et al., 2017; Zhai et al., 2019).

## **Conclusion**

The awareness about QL 47 in medical applications and managing viral infections was less among dental students. Increased awareness and educational programs should be initiated to spread knowledge about QL 47 therapy.

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## **Conflict of Interest:**

The authors declare that they have no conflict of interest.

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