

## ABSTRACT

*Phototherapy is tool that is utilized for therapy on baby that experience bilirubin's disease by use of lighting. American Academy of Pediatric recommends that Intensity and output is fototerapi's peripheral spectral behoof in predict effectiveness potency in cures hiperbilirubinemia. Blue Light's light that utilizing to have wavelength 425 475 nm. System that I utilizes on this tool which is with utilizes irradiance to titrate bilirubin 12 15 mg / dl is  $20\mu\text{W}\cdot\text{cm}^{-2}\cdot\text{nm}^{-1}$  and Irradiance to titrate bilirubin 15 18 mg / dl is  $30\mu\text{W}\cdot\text{cm}^{-2}\cdot\text{nm}^{-1}$  as has already been recommended by AAP. Its lighting distance among 35 45 cm and maximal times is 2x24 hour, each 6 hours once done by checkings.*

*Phototherapy's tool already preexists to be still utilize TL's lamp. It really inefficient because big lamp measure will make box looked big and heavy. That thing makes Phototherapy that its frequent finds, box is lamp it can't move to adjust box baby that its function for lighting generalization. Besides tool phototherapy already preexists not utilize irradiance's system on puts off the light.*

*To it writer will develop by use of lamp CFL that efficient more tool because smaller lamp measure appealed by TL's lamp and box is even tool will lighter. This tool also furnished lightings radiologic election it, according to rate bilirubin on baby, besides it also box lamp moveabling to adjust box baby upon processes therapy. Writer also complete this tool with Timer digital( Counter Up) up to 6 hours for so long process therapy and Hourmeter to know Life Time lamp.*

*Base measurements yielding data timer by takes data of each measurement on phototherapy, error's point that is gotten from compare among timer's measurement at display with stopwatch is as big as 0,003 %.*

*After do module makings process, studi literature is planning, attempt, tool examination, and data in common gets to be concluded that ' Phototherapy with Irradiance's System Level ' gets to be utilized, because error's point under 5 %.*

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**Key word : Phototherapy, Irradiance, Timer**