Counterexample:

Let $V_1 = \text{span}(1,0)$, $V_2 = \text{span}(0,1)$, $V_3 = \text{span}(1,1)$

$\dim(V_1) = \dim(V_2) = \dim(V_3) = 1$

$V_1 \cap V_2 = \{0\}$, $V_1 \cap V_3 = \{0\}$, $V_2 \cap V_3 = \{0\}$

$V_1 \cap V_2 \cap V_3 = \{0\} \Rightarrow \dim 0.$

The proposed formula:

$$\dim(V_1 + V_2 + V_3) = \dim V_1 + \dim V_2 + \dim V_3 - \dim(V_1 \cap V_2) -$$
$$- \dim(V_1 \cap V_3) - \dim(V_2 \cap V_3) +$$
$$+ \dim(V_1 \cap V_2 \cap V_3) = 3.$$

But $V_1 + V_2 + V_3 = \mathbb{R}^2$, so $\dim(V_1 + V_2 + V_3) = 2$.