$$f_k(d, V) \equiv \prod_{l=1}^k \mathbb{P}\left\{A_l = d_l\left(\overline{O}_l, \overline{A}_{l-1}\right) | \overline{Y}_l = \overline{0}, \overline{Z}_l = \overline{0}, C_{d,l-1} = 1, V\right\}.$$