Boundedness of $k$-dimensional system of nonlinear difference equations of neutral type

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The $k$-dimensional system of neutral type nonlinear difference equations with delays in the following form

$$
\begin{align*}
\Delta \left( x_i(n) + p_i(n) x_i(n - \tau_i) \right) &= a_i(n) f_i(x_{i+1}(n - \sigma_i)) + g_i(n) \\
\Delta \left( x_k(n) + p_k(n) x_k(n - \tau_k) \right) &= a_k(n) f_k(x_1(n - \sigma_k)) + g_k(n),
\end{align*}
$$

where $i = 1, \ldots, k - 1$, is considered. The aim of this paper is to present sufficient conditions for the existence of nonoscillatory bounded solutions of the above system with various $(p_i(n)), i = 1, \ldots, k, k \geq 2$.
