Frekuensi Artefak pada Photo-Stimulable Phosphor Plate Intra Oral Periapikal di Unit Radiologi Kedokteran Gigi RSKGM FKG UI = The Frequency of Artifacts on Photo-Stimulable Phosphor Plate in Intraoral Periapical at the Radiology Unit of Dental and Oral Hospital, Faculty of Dentistry, University of Indonesia

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Abstrak

Latar Belakang: Radiografi digital intra oral telah banyak digunakan sejak satu decade terakhir. Photo-Stimulable Phosphor Plate Intra Oral Periapikal merupakan salah satu sensor radiografi digital yang memiliki sifat fisik menyerupai film radiografik konvensional. Bentuknya yang tipis, lentur, dan ketersediaannya dalam berbagai ukuran membuat PSP menjadi lebih popular sebagai sensor intra oral digital. Seperti halnya semua sensor pencitraan, PSP intraoral periapikal rentan terhadap berbagai artefak, yang dapat menurunkan kualitas gambaran radiografis dan akan berdampak pada interpretasi serta diagnosis yang akan dilakukan sehingga diperlukan data mengenai frekuensi berbagai artefak tersebut. Tujuan: Mengetahui frekuensi berbagai artefak pada PSP di Unit Radiologi Kedokteran Gigi RSKGM FKG UI. Metode: Penelitian ini menggunakan data sekunder berupa 392 buah radiograf periapikal digital yang menggunakan PSP di Unit Radiologi RSKGM FKG UI. Pemilihan sampel disesuaikan dengan kriteria inklusi dan eksklusi yang telah ditetapkan. Sampel diambil mulai periode 4 Agustus--13 September 2022 yang selanjutnya dibagi menjadi tiga periode. Uji reliabilitas intraobserver dan interobserver menggunakan Kappa, dilakukan pada hasil identifikasi artefak. Hasil: Ditemukan 378 radiograf (96,43%) dengan artefak dari PSP yang telah digunakan selama 8 bulan. Urutan jenis artefak yang paling banyak ditemukan adalah partikel debu pada plate, pengelupasan tepi plate, bekas gigitan, goresan, artefak karena cahaya sekitar, kontaminasi adhesif, ridging, dan bagian gambar yang terpotong. Jika dilihat berdasarkan artefak kumulatif, periode ketiga memiliki jumlah artefak kumulatif yang paling banyak Kesimpulan: Frekuensi artefak ditemukan sangat tinggi pada radiograf periapikal yang menggunakan PSP. Antisipasi penurunan kualitas radiograf ini dapat dilakukan dengan menghindari berbagai penyebab artefak terutama kehati-hatian saat penggunaan plate dan selalu memperhatikan rekomendasi manual penggunaan plate yang benar. .....Background: Intraoral digital radiography has been widely used over the past decade. The Intraoral Periapical Photo-Stimulable Phosphor (PSP) Plate is a type of digital radiographic sensor with physical properties similar to conventional radiographic film. Its thin, flexible form and availability in various sizes make PSP a popular choice as an intraoral digital sensor. However, like all imaging sensors, intraoral periapical PSP plates are susceptible to various artifacts that can degrade radiographic image quality, ultimately affecting interpretation and diagnosis. Therefore, data on the frequency of these artifacts is necessary. Objective: To determine the frequency of various artifacts in PSP plates at the Radiology Unit of the Dental Hospital, Faculty of Dentistry, Universitas Indonesia (RSKGM FKG UI). Method: This study utilized secondary data consisting of 392 digital periapical radiographs taken using PSP plates in the Radiology Unit of RSKGM FKG UI. Sample selection was based on predetermined inclusion and exclusion criteria. The samples were collected from August 4 to September 13, 2022, and were subsequently divided into three periods. Intraobserver and interobserver reliability tests using the Kappa test were conducted on

the artifact identification results. Results: A total of 378 radiographs (96.43%) contained artifacts from PSP plates that had been used for eight months. The most frequently observed artifacts were dust particles on the plate, plate edge peeling, bite marks, scratches, artifacts caused by ambient light, adhesive contamination, ridging, and cropped image sections. Based on cumulative artifacts, the third period exhibited the highest number of cumulative artifacts. Conclusion: A high frequency of artifacts was found in periapical radiographs using PSP plates. To prevent a decline in radiographic quality, precautions should be taken to avoid artifact formation, particularly by handling the plates carefully and adhering to the recommended usage guidelines.