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Physical & psychosocial effects of radical chemoradiotherapy for cervix cancer: a systematic review

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Topic

Clinical: Gynaecological

Keywords

Systematic review, Late effects, Cervix cancer

Purpose/Objective

In the United Kingdom (UK) 3200 adults are diagnosed with cervix cancer per year, and 50% of cases are in people under 45 years [1]. At diagnosis, 40% will have locally advanced disease (stage IIA, IIB, III and IV where the tumour is too extensive to be completely excised surgically) treated with a combination of external beam radiotherapy (EBRT), weekly Cisplatin (Chemotherapy) followed by brachytherapy [2]. Survival at 5 years ranges between 83% and 52% [3] and in 2011 it was estimated that 34,800 people are alive in the UK having been treated for cancer of the cervix [1]. Effective pelvic radiotherapy can result in long term treatment related toxicity [4, 5] with up to 50% of patients experiencing significant treatment related effects (gastrointestinal (GI), genitourinary (GU), sexual and neurological) that can have a devastating impact on quality of life (QoL) and psychological morbidity [6, 7]. As survival rates continue to increase, so does the significance of mitigation and improvement of management of the long-term effects of cancer treatment. This mixed methods systematic review aimed to identify the physical, psychological, and social consequences of treatment for patients who have completed chemoradiotherapy and brachytherapy for locally advanced cancer of the cervix.

Material/Methods

PsycARTICLES, PsycINFO, PsycTESTS, MEDLINE and CINAHL complete databases were searched between 1990 and 2022. Eligibility criteria was formulated using the SPIDER (S – sample, PI – phenomenon of interest, D – design, E – evaluation, R – research type Framework) [8]. Only English language papers were included and those recruiting participants over 18 years old. The studies comprised: experimental, observational, content analysis, evaluations, systematic reviews, randomised control trials (RCTs) cross sectional studies including both retrospective and prospective designs. The protocol is registered on Prospero [9] according to the Preferred Reporting Items for Systematic Review for Protocols (PRISMA-P) 2015 [10]. The Mixed Methods Appraisal Tool [11] was utilised to appraise limitations and the risk of bias. Extracted data was tabularised and synthesised narratively. Interrater reliability of 10% of papers retrieved was established for final inclusion.

Results

From 684 articles identified, 27 articles were included in the final review, Findings are discussed from 3997 patients enrolled in 20 studies, recruited from Europe, North and South America and Asia. Of the 27 papers 26 were quantitative, 1 was a qualitative paper and there were no mixed methods papers. Sixteen papers included clinician reported data, 2 included patient reported data, 7 included both, and 2 papers reported registry data.

Physical effects of treatment were recorded in papers where clinicians had graded toxicity according to the National Institute of Health / National cancer institute common toxicity criteria for adverse events (CTCAE) or The Radiation Therapy Oncology Group (RTOG) Late Radiation Morbidity Scoring Criteria [12,13]. In clinician reported papers Grade 3/4 GI toxicity was reported (diarrhoea, faecal incontinence, rectovaginal fistula, intestinal obstruction, and persistent rectal bleeding) GU toxicity (vesicovaginal fistula, vaginal narrowing and shortening, urinary incontinence and urgency) pelvic insufficiency fractures and chronic fatigue. In papers 2012 onwards grade 1-2 toxicity including faecal and urinary incontinence were more frequently recorded and reported. However, there was a paucity of information on the timing and onset of treatment related toxicity.

The most commonly reported psychological consequences of treatment (anxiety and depression) were reported by patients using the European Organization for Research and Treatment of Cancer (EORTC) QLQ-CX24 [14]. Psychological distress was also caused by reported changes in vaginal anatomy resulting in lower Female Sexual Function Index (FSFI) [15].

In terms of social functioning surprising little impact was recorded however the impact on the individual's ability to carry out their roles in life was recorded. A high proportion of patients report chronic fatigue, and this is often a prominent factor in patients being unable to undertake paid work. Sexual functioning was also a significant factor in intimate relationships for patients following treatment.

Conclusion

Here we have highlighted a range of physical, psychological and social long term toxicity resulting from radical radiotherapy treatment for cervix cancer. Grade 3/4 toxicity is frequently reported by clinicians; however, the heavy symptom burden of life altering grade 1/2 toxicity is of significant importance to patients, acknowledged by inclusion in clinician reported papers from 2012. This systematic review has highlighted the lack of data on the timing of the onset of symptoms caused by treatment related toxicity and also the importance of developing patient-reported adverse event questionnaires for radiotherapy patients [16,17]. Findings from this review will assist healthcare practitioners in developing effective interventions to maximise the QoL of life of those living with the consequences of cancer treatment.

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