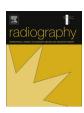


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# An exploration of adolescents' perceptions of X-ray examinations



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#### ABSTRACT

*Purpose:* The research presented in this paper is taken from a larger study whose aims were to explore adolescents' perceptions of X-ray examinations and more specifically middle adolescents' perceptions of X-ray examinations. Middle adolescents are between the ages of 15 and 17 years and experience many changes in their lives that differentiate them from young and late adolescents. There is limited research available on middle adolescents' perceptions of the X-ray examination process

Methodology: 18 adolescents, age range 15–17 years, took part in the research study. This included 9 male and 9 female adolescents from 2 secondary schools in the Dublin area. A self-completion questionnaire was used as the method of investigating their perceptions of the X-ray examination process. The data, which consisted of feelings and opinions, was analysed qualitatively using thematic analysis. Results: Analysis suggested that the adolescents perceived that the 'wait' in the waiting room was long and boring. They expressed an interest in the provision of suitable recreational facilities to distract them from feeling nervous, bored and from the pain they felt. 16 of the adolescents found the X-ray examination interesting, although they appeared to have little knowledge of what was happening. 14 of the adolescents perceived the radiographer to be friendly. More boys than girls complained about the radiographer.

*Conclusion:* The study indicates that middle adolescents are not receiving effective quality care that meets their specific needs when presenting for an X-ray examination. Further research could help in providing the adolescents with the optimum care they need.

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## Introduction

During the period of middle adolescence, adolescents experience different changes in their lives compared to early or late adolescence.<sup>1</sup> This means that middle adolescents present with specific challenges to clinicians and to the health care system as their morphological, physiological and social characteristics are different to those of younger children and adults.<sup>2</sup>

As adolescents are not a large part of the patient population in either paediatric or general medical facilities, standard systems are generally not designed to cater for their needs and clinicians may not be adequately trained to care for adolescents.<sup>2</sup>

A study by Steinwachs and Hughes<sup>3</sup> attests that the goal of quality care is to increase the likelihood of achieving desired health outcomes as conveyed by the patient. Quality of care is important as evidenced by the 2013 Francis Report<sup>4</sup> which arose out of the patient treatment and care at Mid Staffordshire NHS Trust making 300

A recent study revealed that radiographers have little knowledge of adolescent psychology, although they interact with them in the radiology department every day.<sup>5</sup> This is concerning as earlier work by Hardy and Boynes<sup>9</sup> reinforces the fact that as health care

recommendations aimed at improving patient care, avoiding patient harm and ultimately saving 6000 patient lives in the next 3

years. Additionally organisations and individuals are being

encouraged to pledge to improve patient safety. Although this is a

UK report it has relevance here in that an over arching theme of the

Francis report is quality of care and meeting patient's specific needs

of the X-ray examination experience and most of these studies are

There are limited studies available on adolescents' perceptions

whether these be elderly, paediatric or adolescents.

on children and young adolescents combined.<sup>5–8</sup>

work by Hardy and Boynes<sup>9</sup> reinforces the fact that as health care professionals radiographers have a duty of care towards the patient they examine. Additionally the Radiographer's professional body in the Republic of Ireland reinforces radiographers responsibility to promote and protect the dignity, autonomy, privacy and safety of all patients they X-ray.<sup>10</sup> The above is further supported by the Society and College of Radiographers in the Uk Professional Code of Conduct<sup>11</sup>

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Additionally this professional body established a Francis Board to consider the implications of the report for the Radiography profession and the ethos was subsequently reflected in the new Code of Conduct<sup>11</sup> which places the patient at its centre.

Therefore, in order to provide adolescents with a positive experience when they visit for an X-ray examination it is important that radiographers understand adolescent psychology. The aim of the study is to explore middle adolescents' perceptions of the X-ray examination experience in an effort to find out what their needs are and to see if the radiographer is meeting these needs.

#### Method

A qualitative methodological approach was used in order to ascertain adolescents' perceptions of X-ray examinations. The X-ray examinations consist of general X-ray examinations performed in the general or Accident and Emergency departments of a hospital. 2 secondary schools, one boy's school and one girl's school in the Dublin area were chosen using the Fishbowl draw technique as purported by Kumar. The initial sample size of 40 (boys 20, girls 20) proved to be a challenge as the inclusion criteria of the study were that students must be aged within 15–17 years old, must have had an X-ray examination within the last 2 years and must have had the consent forms and assent forms signed. The eligible sample size from the two schools yielded 9 boys and 9 girls.

Prior to conducting the pilot study on the questionnaire and the main study, the researcher applied and obtained ethical approval from the University College Dublin Research Ethics Committee. The principals of the two schools were formally contacted by email in order to inform them about the nature and the aim of the research study and to seek permission to recruit participants. Written permission was then requested and received. Mutually convenient times for the distribution of consent and assent forms to the participating adolescents for their parents and themselves, for the pilot study and main study were agreed upon. The signed consent and assent forms from the participating adolescents were collected prior to conducting the pilot study in one school and the main study in both schools. Marshall <sup>13</sup> suggests that a pilot study is necessary when using a questionnaire as the data collection tool to ensure it is reliable and valid. A sample size of 4 students was chosen at random from a list of all the participating students by the principal of one of the participating schools which was in line with the recommendation that 10 percent of the population size should be used for the pilot study.<sup>14</sup>

The questionnaire took approximately 20 min to complete. Closed questions featured heavily, using yes/no and multiple choice answers. Closed questions provide a uniformity of responses and are simple to process. <sup>15</sup> Open-ended questions also featured. They provided the respondents with freedom and allowed them to write their own answers. <sup>16</sup> The questionnaire was divided into 4 sections. Section one was an introductory section including general questions such as the adolescents' age, sex and year in school. Sections 2–4 evaluated the adolescents' perceptions of each single stage of the X-ray examination process.

A thematic approach was used to analyse the data. The three main themes that were developed are 'the waiting room', 'the X-ray room' and 'the radiographer'. The feelings and opinions in the tables are the reported feelings and opinions of the adolescents.

# Results

The information in the tables is not ranked in order of importance. The researcher also used quotations from the respondents and numbered them from 1 to 18.

## 1. The waiting room

This theme is about how the adolescents perceive the waiting room. Table 1 below displays the adolescents' feelings in the waiting room.

3 adolescents described that they were nervous because they did not want the X-ray to show that they had a fracture. One adolescent said:

"A little nervous as I didn't want to miss matches with a broken ankle"

Respondent 17

The adolescents expressed many different opinions of the waiting room which are displayed in Table 2.

The results revealed that 11 adolescents waited in adult waiting rooms (7 boys and 4 girls in the sample) while the remaining 7 (2 boys and 5 girls) went into paediatric waiting rooms. The most important changes the adolescents would like to make to the waiting room are the availability of age appropriate magazines, the presence of music and TV and more comfortable seats. A female adolescent mentioned that music could relax her nerves:

"Music would've been nice just as a distraction from nerves."

Respondent 18

# 2. The X-ray room

16 adolescents found the X-ray examination process interesting. 6 of the adolescents expressed interest in the equipment of the X-ray room and 8 adolescents expressed interest in the X-ray image/radiograph.

Table 3 displays the adolescents' feelings in the X-ray room.

The pain experienced during the X-ray examination was mainly due to the positioning for the X-ray examination. For example one adolescent said:

"I was in pain because I had to take my arm out of the sling and support it with my other arm."

Respondent 2

## 3. The radiographer

Table 4 displays the adolescents' opinions of the radiographer. 5 of the male adolescents complained about the radiographer.

In response to the question 'Did you ask the radiographer any questions about the examination?' only 5 adolescents asked the radiographer a question. The questions the adolescents asked

**Table 1** Adolescents' feelings in the waiting room.

Feelings	No. of adolescents
Relaxed	1
Curious	1
Excited	1
Interested	1
Annoyed	1
Awkward	1
Confident	1
Pain*	11
Nervous	9
Grand	1
Scared	1

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